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ORIGINAL ARTICLES.

LITHIUM CARBONATE AND SODIUM ARSENIATE DISSOLVED IN CARBONIC ACID WATER, IN THE TREATMENT OF DIABETES MELLITUS.

BY AUSTIN FLINT, M.D., LL.D.,

PROFESSOR OF PHYSIOLOGY AND PHYSIOLOGICAL ANATOMY IN THE BELLEVUE HOSPITAL MEDICAL COLLEGE, NEW YORK; PHYSICIAN TO BELLEVUE HOSPITAL.

AT a recent meeting of the Therapeutical Society of Paris, Dr. Martineau made a brief communication, in which he stated that for several years he had treated cases of diabetes mellitus with a solution of lithium carbonate and sodium arseniate in ordinary carbonic acid water, to the exclusion of every other medicinal remedy, and with a moderately strict antidiabetic diet. Dr. Martineau claimed that he had cured sixty-seven out of seventy cases of arthritic diabetes by this method of treatment, which he had borrowed from a practitioner now dead, the late Prof. Rouget, of Paris. The communication was discussed by Dr. Dujardin-Beaumetz and others, who regarded the method as so simple and, to say the least, innocuous, that it was worthy of trial.

The preparation recommended by Dr. Martineau was the following. Into an apparatus such as is commonly used in Paris for extemporaneously making carbonic acid water, are put twenty centigrammes of lithium carbonate and a tablespoonful of a solution of twenty centigrammes of sodium arseniate in five hundred grammes of distilled water. The quantity of carbonic acid water used is about one litre. This quantity is to be drunk by the patient during each day, either by itself or mixed with ordinary wine at meals.[1]

The simplicity of the proposed remedy led me to make an effort to test its efficacy in certain obstinate cases under treatment for diabetes. I endeavored first to have the agents introduced into the ordinary siphons of soda-water prepared and sold in New York; but the manufacturers were unwilling to do this, and I was forced to adopt some other method of preparation. It was finally suggested to me to put up the preparation in ordinary beer bottles with patent stoppers which could be replaced after using a certain quantity. This is now done by Mr. Theodore Angelo, apothecary, 460 Fourth Avenue, New York City, who has supplied the patients to whom the remedy has been given. Two of these bottles make the equivalent of the quantity administered daily by Dr. Martineau.

I was not prepared to make a trial of the remedy before the middle of April, and have used it since then in but three cases—a time too short, and a number of cases too small to admit of anything like definite conclusions. However, in the hope of inducing others to make similar trials, I venture to present the imperfect results of my own brief experience.[1]

CASE LXXXV.[2]—An unmarried lady, fifty years of age, weighing 115 pounds. Her weight in health was 140 pounds. The disease was recognized six months before she came under my care.

March 11, 1886. The general diabetic symptoms were marked, and the urine contained 2½ grains of sugar per ounce. The patient was put on an anti-diabetic diet, according to my published diet-table,[3] with Clemens's solution of arsenite of bromine, five drops three times daily. March 19th, the quantity of sugar was 7 grains per ounce; March 26th, 14 grains; April 2d, there was no sugar; and April 7th, no sugar. From March 26th to April 7th, the diet was absolutely anti-diabetic, no bread being taken.

June 17. The urine had been free from sugar since April 2d, under the anti-diabetic diet. The quantity was normal, and the body-weight had increased by four pounds. The patient expressed herself as feeling "nearly well."

July 28. The diet for several weeks had been very imperfect; the diabetic symptoms had returned, and the urine contained 24 grains of sugar per ounce. From this date until April 15, 1887, sugar was found in the urine at every examination, the quantity apparently varying with the diet. During this time I made ten examinations. The general diabetic symptoms were much diminished in prominence, although they were distinct. The body-weight did not undergo much change.

April 15, 1887. The daily quantity of urine was 45 ounces, containing 20½ grains of sugar per ounce.

16th. With no change in general treatment, the patient was put on the solution of lithia and arsenic, about two pints daily.

26th. The quantity of urine was 37 ounces, containing 8 grains of sugar per ounce.

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[1] Bulletin et Mémoires de la Société de Thérapeutique, Paris, 30 Mars, 1887, 18e année, No. 6, p. 41.

Reduced to the English standard, the formula would be about as follows:

Lithium carbonate	3 grains.
Sodium arseniate	$\frac{1}{10}$ grain.
Carbonic acid water	2 pints.

This formula has been published in a number of medical journals. In some it is st ted that a teaspoonful of the solution of sodium arseniate is used instead of a tablespoonful. This error arises from a faulty translation of "cuillerée à bouche," which means a tablespoonful. The term for a teaspoonful is "cuillerée café.

[1] The numbers of these cases are made to correspond with the numbers in my book of records.

[2] Journal of the American Medical Association, July 12, 1884.

[3] Flint: Manual of Chemical Examination of the Urine in Disease, p. 85. Sixth edition. New York, 1884.

May 4. The diet had been relaxed. The quantity of urine was 52 ounces, containing 18 grains of sugar per ounce.

12th. The diet had been more rigid. The quantity of urine was 32 ounces, containing 6 grains of sugar per ounce.

29th. The diet had been imperfect. The quantity of urine was about 40 ounces, containing 24½ grains of sugar per ounce.

On May 12th there was some swelling of the eyelids and the quantity of the solution of lithia and arsenic was reduced one-half. On May 14th, 15th, and 16th, the lithia and arsenic were omitted.

The patient was weak and depressed when the treatment with lithia and arsenic was begun. On May 23d, about five weeks after, she felt much better and stronger, with a gain of two or three pounds in weight.

With the exception of the indefinite statement by the patient that she felt better in spirits and stronger, the lithia and arsenic seemed to have produced no marked effects. This patient is peculiarly susceptible to starchy and saccharine articles of food. Under measures of treatment that had been very beneficial in other cases, she has lately shown little or no improvement; and the most favorable view to take of the case is that the disease, under proper dietetic treatment, may not progress rapidly.

CASE XCIII.—A gentleman, sixty-one years of age, 5 feet 5½ inches tall, weighing 157 pounds. The disease was recognized fourteen years ago.

November 19, 1886, the patient came under my care. The quantity of urine was 90 ounces, containing 19 grains of sugar per ounce. The diet had been very imperfect, milk and grapes having been taken freely. He was put upon a strict anti-diabetic diet, with Clemens's solution, five drops three times daily, and one and a half ounces of whiskey three times daily. I saw the patient but once and heard of the progress of the case from time to time from his physician in the country.

April 6, 1887. The patient had not been doing well. He had lost thirteen pounds in weight; the appetite had become very poor, and there was great suffering from pains about the chest and in the limbs.

20th. The general condition was about the same, but the quantity of urine was normal, with 6½ grains of sugar per ounce. The patient was then put upon the solution of lithia and arsenic, two pints daily.

May 11. The general condition was about the same, but the quantity of urine was reduced to 40 ounces and it contained no sugar.

19th. It was reported to me that the general condition of the patient was better and that he was stronger. No report was made of the condition of the urine.

CASE XCV.—A married lady, sixty-three years of age, of medium height, weighing 155 pounds. At the present time she has been under my care for a little more than three months. The disease was recognized twelve years ago. In health the patient weighed about 200 pounds.

February 9, 1887. The general diabetic symptoms are well marked. The quantity of urine is excessive and it contains 23 grains of sugar per ounce. The patient was put upon the anti-diabetic diet, with Clemens's solution, five drops three times daily.

14th. The quantity of urine was normal and it had so continued up to this date. The quantity of sugar was 13 grains per ounce. The diabetic symptoms had disappeared.

April 4. The urine has been examined regularly once a week and the quantity of sugar has been gradually reduced to one grain per ounce. The appetite became very poor about a week ago, and insomnia was very troublesome, with shooting pains over the liver.

17th. The patient was put upon the solution of lithia and arsenic, two pints daily.

25th. The quantity of urine was about normal and it contained no sugar.

May 17. The general condition has improved. Since April 25th, the urine has contained about one grain of sugar per ounce. Within the past six weeks the patient has lost fourteen pounds in weight.

April 24. The general condition of the patient is much improved. The quantity of urine is normal and it contains about one grain of sugar per ounce.

The general result of the observations on the three cases reported is quite indefinite. The effects of the solution of lithia and arsenic were not well marked, and the slight improvement under its use in Cases XCIII. and XCV. might have been due to other causes. I shall, however, continue the remedy in these three cases and employ it in other cases until I shall have given it a fair trial; but I do not feel that it would be prudent in any case to relax the dietetic treatment.

With other so-called specifics for diabetes mellitus I have had some experience.

I have given calcium chloride in a number of cases with entirely negative results.

In several cases I have used Jambol, also with negative results.

I have never given opium, except for the relief of pain and insomnia; but in cases in which it has been used it has been well tolerated.

I nearly always prescribe at first Clemens's solution of the arsenite of bromine. This remedy does no harm, and in many cases it seems to exert some control over the thirst, polyuria, and the quantity of sugar in the urine.

I invariably interdict the use of milk and skim-milk. In a number of cases, in which it has been taken by patients on their own responsibility, I have observed that it promptly induces thirst, polyuria, and an immense increase in the discharge of sugar. In some instances, in which my published diet-table has been copied, milk has been added. This adtion, it seems to me, is most unwarrantable; and the use of milk more than counteracts the beneficial results to be expected from the anti-diabetic diet properly carried out.

For the past three years I have recommended a gluten bread made by George V. Hecker & Co., of New York. This bread at first contained between

two and five per cent. of starch. Within a year, however, it has seemed to act unfavorably. I have lately had a number of analyses made of this bread, and it has been found to contain about thirty per cent. of starch. Within the last two months I have temporarily abandoned its use, although this has greatly increased the difficulties of the dietetic treatment. It is to be hoped, however, that the Messrs. Hecker, who are untiring in their efforts to produce a satisfactory and uniform anti-diabetic bread, will soon perfect their process, so that the bread will be entirely reliable. This will require a more simple chemical process of control, the ordinary methods of ultimate analysis for starch being tedious and expensive.

I have not been able to study the details of the seventy cases mentioned by Dr. Martineau, sixty-seven of which he reported as cured.[1]

The experience of all who have followed out any considerable number of cases of diabetes teaches that the disease is nearly always liable to return under a careless diet; and my own experience is no exception to this general rule. That such an exception should have occurred in the experience of Dr. Martineau would, indeed, be remarkable.

Including the three cases already briefly reported, I have now under observation and treatment ten cases which I have followed for variable periods. It may be interesting to compare seven of these cases with the three treated with the solution of lithia and arsenic.

CASE LXXXIII.—A gentleman, fifty-eight years of age, 5 feet 7 inches tall, weighing 156 pounds. I began the treatment of this case January 17, 1886. The disease had been recognized four years before. The patient had been under the care of an eminent English physician, who gave the opinion, after two or three years of treatment, that the disease would never be entirely cured.

January 17, 1886. The diabetic symptoms were distinct, but slight. The patient had been under a moderately strict anti-diabetic diet. The quantity of urine was 60 ounces, containing 2½ grains of sugar per ounce. The patient was put upon an absolute anti-diabetic diet, without any bread, for two days, and Clemens's solution, three drops three times daily, the dose to be increased in five days to five drops. Two days after, the urine was free from sugar. The patient has continued to be perfectly well in every way up to the present time, being very actively engaged in business.

From January 17, 1886, to May 22, 1887, the urine has been examined twenty-seven times. On December 19, 1886, a trace of sugar was found, this being the only examination in which the urine was not free from sugar. The diet was strict, Hecker's bread being used for the first three months. Since then, while the patient has been careful, the diet has been rather liberal, and the patient has not suffered any serious privation.

CASE LXV.—A gentleman, forty-one years of age, six feet tall, weighing 205 pounds. The disease had been recognized six months, and the patient had lost about forty pounds in weight.

April 22, 1885. The patient had the usual diabetic symptoms in a marked degree. The quantity of urine was excessive, and it contained 21 grains of sugar per ounce. The patient was subjected to essentially the same course of treatment as detailed in Case LXXXIII. In four days the urine was found free from sugar, and the diabetic symptoms had disappeared. Between April 22 and December 22, 1885, the urine was examined thirty-one times. August 10th, the urine contained 9 grains of sugar per ounce; September 1st, no sugar; December 10th, 3½ grains of sugar per ounce; December 22d, no sugar. On the two occasions, the presence of sugar was probably due to indiscretions of diet, and it promptly disappeared under a strict regimen. After the first two months of treatment, the diet was but little restricted. Since December 22d I have seen the patient casually from time to time, and he has reported himself as perfectly well.

CASE XCI.—A gentleman, fifty-six years of age, five feet eight inches tall, weighing 166 pounds. Twelve years ago he weighed 200 pounds. Sugar was recognized in the urine eight years before the patient came under my care.

October 14, 1886. The general diabetic symptoms are slight. For the past eight years the patient has been under a very imperfect anti-diabetic diet, and, so far as I can learn, the presence of sugar in the urine has been constant. The urine is now normal in quantity and contains 25½ grains of sugar per ounce. The patient was put upon essentially the same course of treatment as in Cases LXXXIII. and LXV. On October 21st the urine contained 13½ grains of sugar per ounce; on October 26th, 11 grains per ounce.

29th. The patient was subjected to an absolute fast of thirty-six hours, after the method proposed by Cantani,[1] taking, during that time, nothing but water. The fast was borne very well, and on the day following the patient expressed himself as "feeling as well as he had felt in ten years." The quantity of urine during the last twenty-four hours of the fast was 25 ounces, and it contained no sugar. The ordinary antidiabetic diet was then resumed. October 31st, the urine contained 13 grains of sugar per ounce; November 3d, 10 grains. From November 9th to 20th, there was no sugar. On February 23, 1887, I heard from the patient. His urine had been repeatedly examined, and no sugar had been found. He reported that his "general health had been very good."

CASE VI.—A gentleman, about sixty years of age, 5 feet 6 inches tall, weighing 185 pounds. From March 22, 1878, to February 24, 1885, I had repeatedly examined the urine of this patient while he was partly under the care of the late Dr. Austin Flint. From April 21, 1878, to January 10, 1882, the urine was free from sugar. From October 14, 1882, to February 24, 1885, the urine had generally contained sugar, sometimes in large quantities.

[1] A brief account of three cases, treated by Dr. Martineau, is given in the Therapeutic Gazette, Philadelphia, May 16, 1887, p. 330.

[1] Cantani: Le diabète sucré, p. 402. Paris, 1876.

December 13, 1886. The patient came under my direct care. The quantity of urine was about normal, and it contained 18 grains of sugar per ounce. The patient was languid and easily wearied, but had no abnormal thirst. He was put upon the usual treatment, and took no bread. On December 19th, he was much improved. The urine contained 7½ grains of sugar per ounce. The variations in sugar for a few weeks were as follows: December 23d, 6 grains per ounce; December 26th, 3½ grains; January 1, 1887, a trace of sugar; January 8th, a trace of sugar.

May 24, 1887. The patient had been absent from the city from January 12th to May 4th. He now feels perfectly well. On May 4th and 24th, the urine contained a faint trace of sugar. Since December 13, 1886, the patient has taken no bread. The antidiabetic diet has been rigidly carried out, and the appetite has been tempted by skilfully prepared dishes within the limits of the "diet-table," so that the want of bread has not been a serious privation.[1]

CASE XCII.—A gentleman, fifty-one years of age, 5 feet 11 inches tall, weighing 208 pounds. Five months before he came under my care, he was examined for life-insurance, and no sugar was found in the urine. About three months later, there were thirst, polyuria, weariness, etc., and sugar was found in the urine.

October 20, 1886. The quantity of urine was 100 ounces, containing 31 grains of sugar per ounce. The general diabetic symptoms were marked. The patient was put upon the antidiabetic diet and Clemens's solution. On October 27th, the quantity of urine was reduced to 40 ounces, and it contained no sugar. The diabetic symptoms had entirely disappeared. November 4th and 27th, the conditions were the same. The patient then removed to the West. On January 28, 1887, he wrote me that he was perfectly well. On April 28th he wrote that he was as "good as new." Since his removal to the West the urine has been repeatedly examined and no sugar has been found. The treatment has been continued, with slight relaxation in the diet.

CASE LXXVII.—A gentleman, twenty-four years of age, 5 feet 5½ inches tall, weighing 132 pounds.

October 28, 1885. The general diabetic symptoms were marked. The patient had lost twelve pounds in weight within the past three weeks. The quantity of urine was 112 ounces, containing 28 grains of sugar per ounce. The patient was put upon the treatment already described. On January 6, 1886, the diabetic symptoms had disappeared, and the quantity of urine was reduced to 50 ounces, containing 4 grains of sugar per ounce. On May 19th and June 30th the urine contained no sugar. On September 8th, the quantity of urine was 90 ounces, containing 11½ grains of sugar per ounce. The diet had been imperfect for about two months.

March 2, 1887. The urine was normal in quantity, and it contained 9 grains of sugar per ounce. The patient had been eating freely of Hecker's bread, which, as I have stated, probably contained about thirty per cent. of starch.

CASE LVIII.—A gentleman, forty-three years of age, 5 feet 9 inches tall, weighing 204 pounds. The disease is probably of eight or ten years' standing, but sugar was recognized in the urine only one year before the patient came under my care.

November 30, 1884. The diabetic symptoms were marked. The urine was very abundant and contained 6 grains of sugar per ounce. The patient was put upon the treatment already described. On December 13th the symptoms had disappeared, the urine was reduced to the normal daily quantity, and there was no sugar.

July 7, 1885. The patient had been perfectly well. The urine had been examined seven times since December 13, 1884, and no sugar was found. The diet had been well carried out.

September 20, 1886. The quantity of urine was 55 ounces. The morning urine contained 15½ grains of sugar per ounce, and the evening urine 30 grains. The diabetic symptoms had returned in a moderate degree.

October 12. The urine was normal in quantity, and contained 14½ grains of sugar per ounce. The antidiabetic treatment was resumed. The diet had been unrestricted since October, 1885, the patient then regarding himself as cured.

16th. The urine was normal in quantity, and contained 9½ grains of sugar per ounce.

November 16. The urine contained no sugar, and the diabetic symptoms had disappeared. On January 24, 1887, the conditions were the same.

April 13, 1887. The urine contained 1½ grain of sugar per ounce. The patient had been travelling, and the conditions for maintaining an antidiabetic diet were unfavorable. The patient had been eating freely of Hecker's bread.

The ten cases reported are all that are now under my immediate observation. At the risk of being tedious, I have given certain details regarding these cases, although my records have been considerably abridged in this article. These cases seem to me to be quite instructive. Taken in connection with my other recorded cases, they lead me to the following conclusions:

1. In the three severe cases in which I have used the solution of lithium carbonate and sodium arseniate in carbonic acid water, no very marked effects have been observed in the few weeks during which the remedy has been employed; but the treatment seems to me to be worthy of more extended trial, and it may be useful in mitigating the severity of a strict antidiabetic diet.

2. The so-called specifics for diabetes have little if any effect. An exception, however, may be made in favor of the arsenite of bromine, which has some-

[1] In many regards this case is of great interest. Its progress from March 22, 1878, to August 15, 1883, was reported in my article in the Journal of the American Medical Association of July 12, 1884, Case F. On April 18, 1871, while the patient was under the care of Dr. Brown-Séquard, for some slight nervous disorder, I examined the urine and found it normal. I recognized sugar in the urine, March 22, 1878. Under a moderately strict diet the sugar promptly disappeared, and was not discovered again until October 14, 1882, three years and nearly seven months after, although the diet was unrestricted during the greater part of this time. This might have been regarded as a case of transient glycosuria, if the disease had not become confirmed in 1882 and 1883.

times seemed to me to control, to a slight extent, the thirst, polyuria, and discharge of sugar.

3. The main reliance in treatment is to be placed upon an antidiabetic diet. This has fallen somewhat into disrepute because it is seldom efficiently carried out. In no single instance, out of ninety-nine recorded cases, have I found that the antidiabetic diet had been enforced.

4. Milk should be absolutely interdicted. Its influence over the progress of the disease is prompt, powerful, and most injurious.

5. There are certain cases in which dietetic treatment promptly arrests the disease and keeps it under control. There are other cases in which treatment seems to be of little avail, except in possibly retarding the progress toward a fatal result. Of the ten cases reported, and now under observation, seven are amenable to treatment and three are obstinate.

6. A confirmed diabetic may be cured, in the sense that all symptoms will disappear; but the disease is liable to return at any time under an unrestricted diet. Still, moderate care in diet will often secure immunity.

7. A patient who has once had diabetes should have his urine examined every few weeks. The glycosuria always precedes the general symptoms of the disease, and these general symptoms can generally be forestalled by proper treatment employed as soon as sugar makes its appearance in the urine.

8. As the disease returns, either from imprudences in diet or from other causes, the successive recurrences present greater and greater difficulties in the way of treatment.

SYPHILIS OF THE NERVOUS SYSTEM AND ITS TREATMENT.[1]

BY LANDON CARTER GRAY, M.D.,
PROFESSOR OF MENTAL AND NERVOUS DISEASES IN THE NEW YORK POLYCLINIC.

THE task which lies before me to-night is no easy one. It is the task of explaining, within a short space of time, the symptoms that may arise from a disease which affects the whole of the complicated machinery of the brain, the spinal cord, and the peripheral nerves. I cannot hope to do more than outline the subject. To treat it exhaustively would require a book, to which this paper might serve as an introduction.

Some idea of medical interest in the matter may be obtained from a somewhat curious comparison. Professor Max Müller, the well-known philologist, informs us that the whole of the Sanscrit literature, running, as he expresses it, "like a high mountain-path of literature through the whole history of India, and extending over a period of three or four thousand years, is contained in about 10,000 manuscripts"—more, the same authority estimates, than the whole classical literature of Greece and Italy put together.[2] I have been able to count up some 500 different articles that have been written on the subject of syphilis in the last thirty years, and there are probably many more. This is one-twentieth of the whole Sanscrit literature, or of the combined classical literature of Italy and Greece; and, therefore, in order that the literature of this one subject should equal these great national literatures, it would only take the time of about 600 years, or one-seventh to one-fifth of the time of the Sanscrit writings.

Syphilis of the nervous system varies essentially from the syphilis about which the great syphilographers of France, England, and America have written so voluminously, because the phenomena of the disease which they described have been almost entirely confined to the cutaneous surface of the body. When this malady, however, affects the nervous centres and their peripheral appendages, it usually, I am prepared to say, has not been marked in its cutaneous manifestations. Most of the cases I have had the fortune to see had this peculiarity. At the outset, therefore, we are met with one great difficulty, which does not bar the way of the dermatologist—we are deprived of the diagnostic guidance of a group of symptoms which have been carefully studied for many years; and in their place no one has as yet suggested an equally pathognomonic group of nervous symptoms. Unguided by the tell-tale signs upon the exterior of the body, the history of the initial lesion may, as is probably well known to most of you, become very obscure. The primary sore being usually very slight, it may very easily be overlooked, even by those who are in search of it. The infection may come through the husband to the wife, innocently, too, so far as the latter is concerned. Not long ago I heard a lady telling some friends how she had been afflicted with an obstinate headache and subsequent inflammation of the eyes. Now, it so happened that this lady's husband had died a short while before of intracranial syphilis, and on going to her attending physician, I found that he was entirely ignorant of the etiology of his patient's symptoms. The infection may also come through a surgical operation, as is probably known to you; for I suppose that there are very few communities of any size in which physicians cannot be found who have infected themselves in this manner. Or the infection may come through a lesion innocently acquired about the buccal cavity, and even, perhaps, through articles of clothing. Infection through heredity is of no small account. For these different reasons, it may readily occur that many individuals may be entirely unaware of the disease of which they are the bearers. Add to these sources of error the tendency to concealment which so often actuates patients, glandular indurations, exostosis, in hereditary syphilis the peculiar teeth described by Hutchinson, and the record of many miscarriages and dead births. All these latter incidents may greatly assist us when they are present, which, unfortunately, they are not in a number of cases of nervous syphilis.

At the outset, it should be clearly understood that syphilis may affect the whole of the nervous system—the brain, spinal cord, peripheral nerves, membranes, sheaths, and the bony structures surrounding the nervous tissues, and the bloodvessels within the nervous tissues. It may assume the form of a diffuse infiltration, or it may be limited to a gumma, or it may be confined to the arteries, or there may be

[1] Read, by invitation, before the Philadelphia Neurological Society, April 25, 1887.

[2] India: What can it Teach us? By F. Max Müller, 1883.

diffuse infiltrations, gummata, and arterial lesions in one subject. This diffuse infiltration takes its departure from the capillaries, and consists of numbers of round cells spread throughout surrounding tissues. These are the round cells of the shape of those formations to which Virchow has given the name of granulation tumors, and for which other German pathologists have suggested the name of infectious-granulation-tumors, to which class belong the tubercular formations, lupus, lepra, actinomycosis, and glanders. The cellular character and behavior of each one of these different species are, as is well known, different, as is also their particular location within the body; and two of the salient characteristics of the cells thrown out in a syphilitic infiltration are: that they have scarcely any tendency to suppuration, undergoing a retrogressive metamorphosis by non-suppurative transformations, and that the individual cells are endowed with extraordinarily long-lived vitality. These cells may often lie among the normal tissues for long periods of time and not do any really structural damage. On the other hand, they may set up truly destructive processes that may injure the component parts of a tissue as much as any other destructive process whatsoever.

The arterial lesions were first described in 1874, by Dr. Heubner, of Leipsic, whose observations have given rise to further and often contradictory investigations by Köster, Friedländer, Baumgarten, Rumpf, and many others. Heubner advanced the view that in syphilitic vessels the endarteritis was peculiar in its place of origin, which was in the vessel-less tissue that lies between the *membrana fenestrata* and the endothelium. Normally the *membrana fenestrata* and the endothelium lie so close to one another that no intervening tissue can be seen microscopically. In syphilitic endarteritis, however, Heubner maintains, they are widely separated by a new cellular formation, which consists of a proliferation of endothelial cells, to which, after a certain time, there are added numbers of round cells, as in the ordinary granulation tumors. Heubner very minutely and carefully describes the differences in size of the endothelial cells in health and disease, as well as how to obtain an endothelium that has not been bruised by the ordinary act of cutting the vessel, and it is difficult for any one who reads his painstaking brochure to refuse credence to his plea for this peculiar anatomical site of syphilitic endarteritis, nor is it easy to resist the wish that it were true, as it would constitute so invaluable a guide in dubious cases. But in the thirteen years that have elapsed since Heubner first made his views public, no one has fully confirmed him. Köster, Friedländer, Baumgarten, Huber, Schottelius, Marchand, Rumpf, deny that the endarteritic process starts in the vessel-less structure between the *membrana fenestrata* and the endothelium, or that it consists at first of an endothelial proliferation. They maintain, on the contrary, that the endarteritis is due to the outpouring of round cells from the minute nutritive vessels of the vessels themselves—from the *vasa vasorum*—contained in the outer coats, and that the endothelial proliferation is only a part of the general cellular disturbance that takes place in consequence of this outpouring of round cells. The question needs further investigation. But, however it may be decided, there is no diversity of opinion as to the results which follow upon the endarteritis. The vessels may become narrowed in their lumen by the thickening inward of the fenestrated membrane and the intima. They may become entirely occluded from the same cause. The inner surface of the intima may become roughened or altered in its chemical constitution, and a thrombus may form, which may, in its turn, give rise to an embolus. It may even happen, rarely however, that minute aneurisms may be formed from the wasting of the muscular coat of the vessel, and occasionally there may be a hemorrhage. In other words, a syphilitic infiltration may set up an endarteritis which usually leads to a narrowing of the canal of the vessels, or to an occlusion of it, but which may occasionally lead to thrombi, emboli, aneurism, and hemorrhages.

The prevailing tendency of thought among modern pathologists has naturally led to an endeavor to trace syphilis to a microörganism. As is usual in researches of this kind, our German friends have led the van. As far back as 1869 Hallier thought that he had detected peculiar microbes in the blood corpuscles, and Lustdorfer described syphilitic bodies in the blood. These statements do not seem, however, to have been verified. Klebs, in 1879, Aufrecht, in 1881, and Birch-Hirschfeld, in 1882, described microörganisms which they would have us regard as the cause of the phenomena of syphilis. But the investigations of Lustgarten and Doutrelepont since 1884 have been more precise than those of their predecessors, have been largely confirmed, and have, therefore, attracted far more attention. These gentlemen have described slender bacilli, like straight or somewhat curved rods of about the size of the tubercular bacilli, and they are found singly or in groups in cells. They bear spores, which appear as clear, oval, glittering spots. They are colorable by a method described by Lustgarten. A most energetic discussion of these bacilli, their relations to syphilis and their differentiation from other bacilli, has been and is still going on in France and Germany. The mere catalogue of the disputants will indicate the interest that is felt in the subject—Cornil, Giacomini, Disse and Taguchi (two Japanese medical men writing in German), Klemperer, Köbner, Matterstock, Rumpf, Gottstein, Leloir, Weigert, Baumgarten, Tavel, Alvarez, Eve, Longuard. As a result, it may be stated, that the question is not by any manner of means yet decided; that the bacilli described by Lustgarten have been found by many in syphilitic individuals; that bacilli, similar in some respects to those of Lustgarten, are found in normal smegma and the secretions of the genital organs; that the bacilli of Lustgarten and those of the smegma and the genital secretions differ from one another distinctly in several particulars; that there are probably several bacilli in syphilis, two varieties being described by Rumpf. The bacilli of Lustgarten have been found in all stages of syphilis and in syphilitic alterations in many different tissues, and nothing like them has been found

in non-syphilitic individuals, except in the smegma or the genital secretions, and even here there are alleged points of difference: hence it would certainly seem as if Lustgarten's bacilli bore some relation to syphilis. No one has as yet succeeded in obtaining any pure cultures of these bacilli, and this test is therefore lacking.

So much do we know of the pathology of syphilis.

These diffuse infiltrations, these gummata, these arterial lesions, may, as must be evident to all of you, cause symptoms that are coextensive with the symptoms of derangement of any part of the nervous system. All the recognized mental and nervous disorders may have a syphilitic basis, and in the case of any one of them it simply becomes a question as to whether a history of the infection is obtainable. So far as is known, it is not possible to say of any nervous or mental disorder that it may not have a syphilitic causation; and if we may draw conclusions from the nervous and mental disorders of recognized syphilitic causation, we should say that the prognosis of very few would be materially altered by such etiology. But over and above the well-recognized forms of nervous and mental disease, there are certain groups of symptoms which may fairly be regarded as indicative of specific infection, although the proof may not be greater than that to which the lawyers give the name of "prima facie"—*i. e.*, proof amounting to a presumption, which may, however, be rebutted by adequate testimony to the contrary. These symptom-groups, if I may allowed to formulate from my own experience, are as follows:

1. Quasi-periodical cephalalgia of a peculiar kind.
2. Hemiplegia under forty years of age, with or without preceding cephalalgia of the aforesaid type.
3. Cephalalgia followed by hemiplegia, which bear a singular relationship to one another in that the cephalalgia ceases immediately upon the supervention of the hemiplegia, and does not recur.
4. Convulsions in the adult, which have not been preceded by convulsions in infancy, and are not of traumatic or nephritic origin, or due to pregnancy, or in an individual subject to migraine.
5. Symptoms indicative of a lesion at the base of the brain.
6. A comatose condition extending over days or weeks, not traumatic, meningitic, diabetic, nephritic, or from typhoid fever.
7. Tabes dorsalis.
8. General paresis.
9. Spinal lesions in a subject who has had intracranial syphilis.

1. *Quasi-periodical cephalalgia of a peculiar kind.* One expression of the quasi-periodicity of syphilitic cephalalgia that is well known to the profession is the nocturnal recurrence. But this characteristic may be other than nightly. I have known the headache to recur repeatedly at a certain time of the day, usually in the afternoon. What is very misleading, too, in the way of differentiation of malaria is that this cephalalgia may yield readily, although temporarily, to large doses of quinine. This quasi-periodical form of neuralgia may be accompanied by an obstinate insomnia, and by considerable mental irritability, both insomnia and irritability bearing no adequate proportion to the amount of pain; when the latter signs are present, they are of considerable diagnostic importance, because the cephalalgia of brain tumor or nephritis is not usually accompanied by them.

2. *Hemiplegia under forty years of age, with or without preceding cephalalgia of the aforesaid type.* It is a fair clinical distinction that can be used for guidance of one's inquiry, upon first talking with a patient, to bear in mind that hemiplegia in the adult under forty years of age is usually of syphilitic origin, whilst hemiplegia in the adult above forty years of age is due to the chronic degenerative endarteritis of middle life and old age. Hemiplegia may occur in children, of course, from many other causes, and should, therefore, be ruled out in the present inquiry. This adult hemiplegia of specific origin may be either motor or sensory, or both, for anatomical reasons that need not be explained.

3. *Cephalalgia followed by hemiplegia, which bear a singular relationship to one another, in that the cephalalgia ceases immediately upon the supervention of the hemiplegia, and does not recur.* This is a curious clinical feature to which, so far as I know, no writer has yet made allusion, and one which I have observed in over forty cases, although I can offer no explanation of it whatsoever. I have never seen it except in syphilitic hemiplegia. I should like to ask the attention of the profession to this point, in order that it may be tested.

4. *Convulsions in the adult, which have not been preceded by convulsions in infancy, and are not of traumatic or nephritic origin, or due to pregnancy, or in an individual subject to migraine.* It is too much the custom, I think, to regard convulsions in infancy as harmless, and not prone to recurrence. In a paper which I read several years ago,[1] I called attention to the fact that a large proportion of the cases of epilepsy in youths or adults, would be found upon careful inquiry to have had a convulsion in early life, that had usually been attributed to dentition or intestinal or febrile complaints; and of such early convulsions it may be very difficult to obtain a history unless the parents or some other near relatives are interrogated. The convulsions occurring in nephritis, or in certain women during pregnancy, are too well known to need more than a bare reference. Again, it is a curious fact, to which I have referred in the paper just mentioned, that migraine is interconvertible in certain individuals with epilepsy, so that most individuals who have a personal or hereditary history of migraine will be found upon minute and patient interrogation to have had a loss of consciousness or epileptic-like convulsion at some period of their life. If, however, pregnancy, migraine, nephritis, trauma, and preceding infantile convulsions, are excluded, a convulsion in an adult should give rise to grave suspicions of intracranial syphilis.

5. *Symptoms indicative of a lesion at the base of the brain.* Syphilis is especially apt to hug the base of the brain, and more especially that anterior portion of

[1] The Treatment of Epilepsy, N. Y. Med. Journal, June 28 and July 5, 1884.

it which forms the hexagon wherein lie the olfactory, the optic, the motor oculi, and the fourth pair of nerves, as well as the crura cerebri, and lesions of which impair the functions of these cranial nerves on one side of the body, and induce disturbances of motion and sensation upon the opposite side, giving rise to the so-called "crossed paralysis." Of course, tuberculosis has a predilection for the same site, but the history of the patient and the presence of pulmonary symptoms make easy a diagnosis of this affection. It is true also that tumors of non-specific origin may be found in the same location, but usually they are not so diffuse as a syphilitic infiltration, and usually also the specific lesions of this part of the brain are accompanied or have been preceded by a characteristic cephalalgia.

6. *A comatose condition extending over days or weeks, not traumatic, meningitic, diabetic, nephritic, or from typhoid fever.* It is not always easy to exclude the coma of meningitis, especially in the early stage before the characteristic symptom of retraction of the head has made its appearance, although the temperature curve may be of great assistance. In my experience, this retraction of the head is of well-nigh infallible importance. Fränkel, however, has reported a rare and curious case, from the wards of the Charité Hospital in Berlin, in which this retraction of the head was found (post-mortem) to be due to a lesion in the middle portion of the ascending frontal convolution, just where the centre for the muscles of the neck has been located on *à priori* grounds by Wernicke. The coma of nephritis, it must also be borne in mind, is not always of the profound nature that is seen where the urine contains large amounts of albumen. It may be light, variable in its manifestations, simulating a profound hysterical condition. Nor will it do to exclude nephritis by a mere cursory examination of one specimen of the urine for albumen. Several specimens should be obtained. Best one at morn, midday, and evening, and the amount of urea should be estimated, casts, blood-corpuscles, and pus should be carefully searched for, and albumen should be sought for by the finer modern methods, rather than by the old and rough test by heat and nitric acid. I have more than once been called into consultation regarding conditions of coma, and have been informed that nothing had been found in the urine to indicate nephritis, and yet the autopsy has disclosed advanced disease of the kidney. Diabetes can, of course, be easily ascertained. Some anomalous cases of typhoid fever are apt to mislead one at the start, although the progress of the disease almost invariably makes the diagnosis very certain.

7. *Tabes dorsalis*, and

8. *General paresis.*

It is not of much practical importance to ascertain the presence or not of a specific infection in these two grave maladies, because, so far as I have seen, the syphilitic causation has for them only this significance, that they will do rather better upon anti-specific treatment than the non-syphilitic cases; the course of the disease, however, is not materially altered.

9. *Spinal lesions in a subject who has had intracranial syphilis.* These spinal infections always require unusually large doses of the anti-specific remedy.

This quasi-periodical cephalalgia, this hemiplegia under forty years of age, this cephalalgia ceasing upon the supervention of hemiplegia, these convulsions in the adult, these lesions at the base of the brain, these comatose conditions may be present singly or in varied grouping, and singly or in groups they should always give rise to a strong suspicion of antecedent specific infection.

We have seen how difficult it may be to obtain the precise history of the initial lesion in such cases. The question at once arises as to what significance may attach to the success or non-success of anti-specific treatment. There can be no question that the profession are illogical in attaching the importance that they usually do to the results of such anti-specific treatment, because mercury and the iodides are efficacious in many affections that have no specific etiology. All the same, however, I cannot disabuse my mind of the fast-rooted impression that a disease which disappears rapidly and completely under anti-specific treatment, and which has not been affected by other forms of medication, is of specific origin.

The *prognosis* is dependent upon the question as to whether the lesions are destructive or non-destructive, and in many cases it is treatment alone that can determine this point. In general terms it may be said that syphilis of the nervous system is of good prognosis except where it has set up actual organic disease, except where it has excited in the normal tissue the formation of some other structure that is foreign to the particular texture. The infiltrations of the nervous tissues themselves, the gummata, the arterial lesions, are by themselves remarkably harmless. It is singular to see, as we often do, how much and how long the nervous structure will present evidences of syphilitic disease and yet recover entirely under adroit and vigorous treatment. Buzzard tells of an artery that had been almost occluded, being tested by the sphygmograph and yet was freed by proper treatment. To speak more precisely, it may be said that the symptoms of good omen are:

Nervous syphilis in its early stage; lesions at the base of the brain; spinal lesions without preceding intracranial specific disease; peripheral lesions.

Of uncertain omen are:

Long standing nervous syphilis;

Syphilitic insanities;

Spinal lesions with preceding intracranial specific disease;

Convulsions;

Comatose conditions;

Hemiplegia.

Of bad omen are:

Tabes dorsalis;

General paresis;

Nervous syphilis in persons whose general health is bad;

Relapses in spite of anti-specific treatment;

Nervous syphilis in persons who bear the iodides badly.

I have very pronounced ideas in regard to *treat-*

ment. I know of no reason for dogmatism except considerable experience, and that is my excuse for my dogmatism. I have no faith whatsoever in mercury, and I have discontinued its use for some time past. Again and again have I seen cases go halting along in the most uncertain manner, under mercurial treatment, and yet have the symptoms been smoothly, gradually, and certainly removed by the iodides. In several cases, too, I have known of death, although the most careful mercurial treatment had been pursued in enormous doses, and these cases have been precisely similar, as far as anyone is able to judge of one case by another in the practice of medicine, to others that I have been accustomed to regard as of favorable prognosis under the treatment by the iodides. I am quite prepared to say, that unless the iodides with their proper adjuvants—of which I shall speak in a moment—can cure a case of nervous syphilis, it cannot be cured at all. But the dose of the iodides which are administered by the Germans and French will often be entirely inadequate. I give the iodides until the symptoms yield, or until iodism is produced. I make use of the saturated solution of the iodide of potash, each drop of which contains almost a grain of the salt. I commence with twenty drops three times a day, and increase it each day by two or three drops at each dose, and keep increasing until the symptoms yield or iodism is produced. Should iodism ensue before the symptoms yield, I pursue one of two methods. I first increase the dose of the iodide by about one-third, and rapidly increase each succeeding day. Singular to say, in some cases this increased dosage will cause the iodism to disappear, and the larger doses will be borne very well. Should, however, these larger doses still more increase the iodism, I decrease to one-half of the dose at which the iodism had begun, and continue this decreased dose until the iodism diminishes or disappears, when I again rapidly increase the dose, and am usually able to go on without further trouble. In some few individuals, however, no amount of care will cause more than a certain amount of the iodide to be borne, and such cases, as I have said, are usually of unfavorable prognosis. In some cases, too—fortunately they are rare—even small doses of the iodide will produce a cardiac disturbance that prohibits its administration. But this last fact should not be confounded with the phenomenon that the profession generally does not seem to be cognizant of, namely, that small doses of the iodide, five or ten grains, will usually produce more iodism than the larger doses. I am perfectly well aware that the medical chemist will object that these large doses of the iodide pass through the body and are quickly excreted by the urine; but I am equally well aware, in the face of this fact, that these large doses of the iodide will cause symptoms to yield that cannot be made to yield by lesser doses. I have given as much as eight hundred grains of the iodide of potash in the twenty-four hours, and have seen symptoms disappear with these enormous doses that would not yield to minor ones. I administer the iodide after meals, and either in a full tumbler of ice-water, or in a glass of Vichy, or in a glass of a Bohemian spring water, the Giesshübler. I prefer the Giesshübler to the Vichy, although it is more expensive, because it is much more pleasant to the taste, and agrees much better with the average stomach. Moreover, the Vichy water which is put up in siphons in this country is artificial, by no means equal in its effects to the natural water, and the natural water, either of this country or of Europe, does not keep as well in bottles as does the somewhat similar water of the Bohemian spring.

But he who expects to cure his patient with the iodides alone, unless the case be so grave as to call for immediate relief, will be disappointed. The human organism must be put in the best possible condition. A generous diet should be employed. Freedom from care and worry, where possible, should be enjoined, and all strenuous exertion of body or mind avoided. And let me say here that in many broken-down individuals the most satisfactory results may be obtained from a conjunction of the iodides with the brilliant treatment that has been made known by Dr. Weir Mitchell, under the name of "Fat and Blood making"—a therapeutical procedure that, in my humble opinion, will rank in coming years with the surgical revolution inaugurated by Lister. When the acute symptoms have been brought under control, travel, especially an ocean voyage, will often work wonders. In every case that tends to chronicity staple tonics and alteratives should be used.

I have often asked myself, when a person can be considered to be cured of nervous syphilis; and I have never succeeded in answering the question to my own satisfaction. I know of no data by which we can guide ourselves. I have seen relapses occur years after the disappearance of every untoward symptom, and I have seen them even where a certain moderate treatment by the iodides had been maintained. I usually impress this uncertainty upon my patients, warn them to be on the lookout for future symptoms, and apprise whoever may be their attending physician of their possible significance, and I enjoin them to keep up moderate doses of the iodide for years. This last precaution I observe the more readily because I have but seldom seen any ill-effects from the continued administration of the iodides, to which patients usually become accustomed as they do to common salt. Occasionally it may happen that an obstinate pharyngeal or post-nasal trouble may be induced, or some unsightly cutaneous eruption, but, as a rule, these are controllable, and in any event they are far preferable to the possibilities of nervous syphilis.

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SURGICAL PUNCTURE OF THE HEART. A WARNING.

BY T. WESLEY MILLS, M.A., M.D.,
PROFESSOR OF PHYSIOLOGY, MCGILL UNIVERSITY, MONTREAL.

THERE appeared in THE MEDICAL NEWS of June 4th, a paper entitled, "An Experimental Study of the Effects of Puncture of the Heart in Cases of Chloroform Narcosis," the author of which seems to be unaware of certain phenomena that result from puncture and other forms of cardiac stimulation, to which it is proposed briefly to direct attention, on account of the relation they have to the practical bearings of the subject.

That a heart that has recently ceased to beat can often be restarted by needle puncture, etc., has been known for physiological ages, and it needed no further lengthened series of experiments to demonstrate it. In 1884, Professor Kronecker, then of Berlin, ascertained, at first accidentally, that a needle thrust into the heart of a dog may arrest the ordinary ventricular beat, and substitute for it a "fibrillar" action, a sort of incoördinated movement of the muscular fibres, quite ineffective in expelling any blood from the organ. The auricles continue to beat as usual, and while they remain amenable to the action of the vagus nerve, the ventricles pass wholly beyond its control.

Professor Kronecker made many experiments, and gave several demonstrations, at some of which I had an opportunity to assist, as I then was enjoying the hospitality of the Berlin Physiological Institute. An account of these researches was published in the proceedings of the Berlin Medical Society, I believe. It was found that the vulnerable area was near the line of the left coronary artery, therefore near or in the septum of the ventricles, at about one-third of the distance from the base of the heart. Professor Kronecker assumed the existence of a nervous "coordinating centre," which, however, he had not at that time demonstrated anatomically.

This phenomenon I demonstrated in the Physiological Laboratory of McGill University, before the physiologists attending the meeting of the British Association for the Advancement of Science, in Montreal, in 1884, when the causation of this most curious behavior of the heart gave rise to an interesting discussion.

In the investigations on the hearts of the cold-blooded animals which I have been carrying on during the past three years, a good many opportunities have been afforded me of studying the phenomenon as it is manifested in them. It can be readily induced in the sea-turtle by electrical stimulation of the ventricles. In one case it seemed to have been originated in the terrapin by the entrance of sodium carbonate into the heart during a blood-pressure experiment.

From the fact that one may make many punctures as near to the suspected area as can be guessed without inducing fibrillar action, while after the heart has been long experimented on in some other way, or its vitality otherwise lowered, merely seizing it with the hand may originate the action in question, it has occurred to me that it is a result of stimulation of the muscle under peculiar conditions; in fact, that it is not of nervous, but of muscular origin.

That it is so in the turtle, very numerous observations leave me no room to doubt. It can be induced in dogs, rabbits, and the chelonians, by electrical stimulation as well as by puncture, manipulation of the heart, etc. But there is this most important difference in these animals, that while they all, except the dog, recover from this aberrant behavior of the heart, in this animal it is *invariably fatal*, the creature being as surely asphyxiated as if his heart had ceased to contract.

Whether puncture must be confined to the very circumscribed area referred to above, to cause the fibrillar contraction, I am unable, from personal observation, to say; but that there is no such limitation in the turtles I have again and again proved. The phenomenon in the dog lasts from seven to ten minutes when the heart is arrested beyond the power of recovery. There is reason to believe that the heart of man would behave similarly to that of the dog. It is easy to understand why, if the area that is vulnerable is limited, or if the effect is dependent on the condition of the cardiac muscle, scores of punctures might be made without a fatal result. Indeed, Prof. Kronecker stated that his discovery explained why slight wounds of the heart had in some cases proved fatal, while much more serious ones, from the surgical point of view, had been comparatively harmless. This physiologist also thought physicians were, in the light of these facts, no longer justified in using electricity over the heart to recover from chloroform narcosis, etc.

I have no intention of entering upon a general criticism of the paper which has called forth these remarks, but when the author of that paper transfers his conclusions from dogs to men (a process not perhaps physiologically very objectionable in itself in such a case), and seriously proposes needle-puncture *as a remedy*, knowing the facts referred to above, it is impossible that I should remain silent, and not sound a warning against such a *possibly* dangerous procedure. The insertion of a needle into the heart might excite the quiescent organ to action, while again it might cause a feebly beating heart, that would perhaps recover if given a chance, to become hopelessly incoördinated.

HOSPITAL NOTES.

TREATMENT OF CHOLERA INFANTUM IN THE NEW YORK HOSPITALS.

BELLEVUE HOSPITAL.

DR. A. JACOBI treats the cases which come into his ward, as follows:

INTERNAL MEDICATION.—*Empty the stomach and bowels* of fermenting masses. The castor oil of the lay

public answers well. A dose of calomel (grs. j–vj) answers better, because it acts as an anti-fermentative, beside being a purgative.

Neutralize acids (fat acids) in the stomach. Carbonate or phosphate of calcium, grs. j–ij, every one to two hours, acts as an adjuvant to other treatment. Bismuth also answers this indication, besides being an anti-fermentative. Dose, grs. ss–ij every one to two hours. May (must) be combined with opium, Dover's powder, grs. $\frac{1}{10}$–$\frac{1}{5}$–$\frac{1}{3}$, every one, two, to four hours. No salts of magnesium or sodium, because they add to the diarrhœa in these acute cases. Avoid syrups to correct the taste of medicines. They will turn sour. Prefer glycerine.

Anti-fermentatives.[1]—Calomel, bismuth, alcohol, creasote, salicylate of sodium, and resorcin have been recommended for their anti-fermentative effect. Of the two latter I prefer resorcin, iv–x grains *a day*, in solutions (suspensions), or as a constituent of powders (with bismuth, chalk, opium).

Sedative.—Opium depresses hyperæsthesia, hyperperistalsis, and hypersecretion. Dover's powder (gr. $\frac{1}{10}$ to $\frac{1}{3}$ every two to three hours) acts very well, though some writers object to it, and is indispensable. Does well with bismuth, and prepared chalk, with or without resorcin.

Astringents.—In acute cases, and when the stomach participates in the process, lead, tannin, gallic acid, alum, etc., are badly borne. In chronic protracted cases they will find their indication. Nitrate of silver does better in many acute cases, gr. $\frac{1}{60}$th to $\frac{1}{30}$th in 2 drachms of distilled water (dark bottle) every two hours. Creasote water in chronic cases.

Stimulants.—Alcohol may be admixed to food. Bad brandy or whiskey contains fusel oil, which is a paralyzing agent. Whiskey is therefore preferable with us, because it can be obtained in greater purity for less money. (See under "Food.") Never give it raw. Camphor is better borne than ammonia. It is easily taken when simply rubbed off with glycerine suspended in mucilage (gr. ¼—ij every one to two hours). The strongest nerve stimulant of all is *Siberian* musk. Give in *urgent* cases of collapse gr. i–ij every fifteen or thirty minutes (best suspended in mucilage) until six or twelve grains have been taken. A very good stimulant in collapse is the injection into the bowels through a long flexible tube (catheter No. 12) of hot water with some alcohol, and one or a few drops of tinct. op.

EXTERNAL APPLICATIONS AND HYGIENE.—In acute cases with high temperature applications of water of 60°–70° to abdomen. Where much pain and with anæmic children, warm applications do better. Frequent injections of water of 100° F. answer well in most cases, not only in rectal catarrh. In collapse or great debility, the water ought to be from 105° to 112° F., and contain some alcohol and opium. Part of this water will be absorbed, fill the bloodvessels, and may prevent intracranial and other thromboses. The addition of gum-Arabic to the injection, or the use of glutinous decoctions (flax-seed) instead of water is quite satisfactory. Open doors and windows in hot weather. Select the coolest place in the neighborhood for the patient, day and night. Night air is better than no air. Country air, sea air, better than city air, particularly at some altitude. When the body is warm and the weather hot, wash the body with cool water, or alcohol and water (1 : 5) frequently. Cold feet must be warmed artificially.

Food.—No raw milk, no boiled milk, no milk admixture at all, in bad cases. In vomiting and severe diarrhœa, *total abstinence* for from one to six hours. Afterward teaspoon doses of a mucilaginous or farinaceous decoction. Regular food: 5 ounces of barley-water, 1–2 drachms of brandy or whiskey, the white of 1 egg, salt and sugar, teaspoonful every five or fifteen minutes, according to age and case. May be mixed with mutton-broth, which, with white of egg, etc., is better than beef soup or beef-tea in convalescence. Abstinence better for vomiting than ice; the latter may quiet the stomach, feel pleasant, but stimulates peristalsis. Avoid beef-tea. If it be given in convalescence, mix it with barley-water.

Toward the end of the disease, or when the discharges are many and copious, and inspissation of blood, and thromboses (hydro-encephaloid) threatening, the common sense of the practitioner will introduce liquid into the circulation as best he can. No written rule ever supplies or substitutes brains.

NEW YORK INFANT ASYLUM.

DR. L. EMMETT HOLT holds that as pure air and proper feeding are the most important things in prophylaxis, so they are the most important in the treatment of this disease. Sick or well, there is no food for a baby that compares with good breast milk. If this is being used, or can be obtained, the quantity only needs to be regulated. Not more than half the child's allowance when well should be given, and if the stomach is very irritable, all food should be withheld for half a day or a day, giving nothing but toast-water or thin whey to allay thirst. If a child has been weaned, or good breast milk cannot be obtained, cows' milk had best not be trusted, as it is so easily changed in hot weather, especially in cities and among the poor. In the country, where fresh milk can be obtained twice a day, it may not hold; but in the city, children certainly do better when milk is withheld, and other articles not so prone to fermentation are given. Chicken, beef, and mutton broths, expressed juice of roast beef or steak, wine-whey, white of egg shaken up with water, rice-water, barley-water, or the malted foods, koumyss, and in some cases raw scraped beef, are articles with which we may replace milk.

The first indication in every case, except true choleriform diarrhœa, is to clear out the bowels as completely as possible, by a good dose of castor-oil, or by one or two grains of calomel in the form of tablet triturates. This will be sufficient to cure a large number of the

[1] The practice of giving anti-fermentatives has preceded the theory for centuries. Still the theory is not quite so recent as a few modern journal articles appear to believe. In "Treatment of Infant Diarrhœa and Dysentery," by A. Jacobi, M.D., in *Amer. Journ. Obst.*, etc., July, 1879, there are the following remarks:

"A further indication is to destroy ferments. For that purpose most metallic preparations will do fair service. One of these is calomel . . . as to its effect as an anti-fermentative there can be no doubt. . . . Possibly, it acts by a portion of the drug being changed slowly into the bichloride of mercury."

"Alcohol certainly arrests fermentation."

"Sometimes, particularly when the stomach can be relied on, the salicylate of sodium may be added to the internal treatment. . . . The salicylic acid may prove beneficial, both by its antifebrile and disinfectant action."

milder cases, if taken early, provided the feeding rules laid down are carefully followed. In more severe cases, and in those of longer standing, a simple clearing out produces only temporary improvement; further measures must be taken to restore healthy action of the alimentary tract and stop decomposition. Salicylate of sodium, in grains j–ij doses, every two hours, or naphthalin in double the amount, we have found the most useful.

High temperature should be reduced by baths or cold sponging. It should not be forgotten that this may come from septic absorption from the bowels; if the temperature has risen coincidently with a great reduction in the number of discharges, a brisk cathartic will prove the most efficient antipyretic.

Cerebral symptoms may likewise be toxic, and, if so, should be treated in the same manner.

The object of treatment is not simply to arrest the discharges, but to restore their healthy character. Hence, opiates are not admissible at the outset, and never during the course of the disease when the discharges are foul and offensive. The retention in the intestinal canal of such matters, loaded with bacteria, can only result in harm.

Last summer, in this Asylum, a trial was made of the method of irrigation of the bowels with simple water or weak astringent solutions, in twenty-one cases. Only eleven were cured by this treatment alone. Although the results were not so gratifying as was anticipated from the accounts published in Germany, still some very bad cases did surprisingly well under it. It is certainly deserving of a more extended trial, as a valuable addition to our therapeutics.

True choleriform diarrhœa was treated in a few cases by hypodermatics of morphia and atropia; one or two yielded quite promptly; others, no more severe apparently, were uninfluenced by it.

THE GERMAN DISPENSARY.

DR. AUGUSTUS CAILLÉ varies the treatment with the period at which the child comes under observation. Inasmuch as a simple dyspeptic diarrhœa may develop into the most violent choleraic diarrhœa through the agency of high temperature and improper feeding, it will be well to consider briefly the prophylaxis of cholera infantum—*i. e.*, the treatment of gastric catarrh, with tendency to diarrhœa. The diet of the sick child must be at once restricted. Food should be withheld for a period of from six to twelve hours, and water given *ad libitum*, also oatmeal, barley, toast-water, and lime-water. Nursing babies can be deprived of the breast for the same length of time.

The bowels should be evacuated by means of castor oil, magnesia cum rheo, or calomel gr. ½, sugar gr. v, pro dosi, given every hour until five are taken. It is best to place the powder dry upon the tongue. If the tongue remains coated twenty-four hours after the administration of calomel, etc, dilute hydrochloric acid, with or without pepsin is indicated.

℞.—Acid. muriat. dil. . . . gtt. xl.
Aquæ . . . . . ℥ijss.
Pepsini pur. . . . . ℥ss.
Syrupi simp. . . . . ℥iv.—M.
Sig.—Teaspoonful every hour.

Or,

℞.—Acid. muriat. dil. . . . ℥ss.
Aquæ . . . . . ℥xiv.
Tincturæ opii . . . . gtt. ij.
Syrupi simp. . . . . ℥ij.—M.
Sig.—Teaspoonful every two hours.

In acid dyspepsia, alkalies (mist. cretæ) are indicated.

In order to save time and prevent misunderstanding, Dr. Caillé has found it a good plan to have a diet-card printed, which he presents to the parents, telling them to give to the sick child the articles of diet which are not crossed out. The articles enumerated on the cards are as follows:

Barley-water, oatmeal-water, white of egg in water, gum Arabic in water, lime-water, whiskey in water, bread crust boiled in water and allowed to cool, milk with any of the above waters, meat broth with any of the above waters, cold tea.

The acute attack (cholera infantum) calls for the following treatment:

1. Antifermentative (antiseptic) measures.
2. Rest for the intestinal tract.
3. Stimulation and prevention of collapse.

If a child is seen early, before collapse has set in, it should be kept as quiet as possible, and no food given for six to ten hours, on account of irritability of stomach. Pounded ice, with or without whiskey, cold tea, ice tied in a rag to be held in the mouth, are advisable; also, lime-water, toast-water, rice-water.

To meet indications 1 and 2 he relies upon the following drugs:

℞.—Bismuth. subcarb. . . . ℥j.
Aquæ cinnam. . . . ℥ij.
Tinct. opii . . . . gtts. ij.—M.
Sig.—Teaspoonful every one to two hours.

Or,

℞.—Sodii benzoatis . . . ℥j.
Aquæ . . . . . ℥xiv.
Syrupi . . . . . ℥ij.—M
Sig.—Teaspoonful every two hours.

Or,

℞.—Acid. carbol. pur. . . . gtt. ij ad vj.
Mucilaginis . . . . ℥ij.—M.
Sig.—Teaspoonful every two hours.

Or,

℞.—Argenti nitratis . . . gr. ij.
Aquæ destil. . . . . ℥ij.—M.
Sig.—Teaspoonful every two hours.

Or,

Resorcin . . . . gr. ij.
Aquæ cinnamoni . . . ℥ij.
Tinct. opii. . . . . gr. ij.
Sig.—Teaspoonful every two hours.

He avoids the addition of syrup to a mixture, if possible, and omits the opium if the patient apparently has little or no pain.

When children are very restless, and show by their actions that they suffer pain, he does not hesitate to give

small doses of opium, one, two, or three drops in a two-ounce mixture.

A towel wrung out of cold water and secured over the abdomen, appears to relieve pain; and a warm mustard bath stimulates in impending collapse.

For obstinate vomiting he frequently gives:

℞.—Tr. iodin. . . . . gtt. xv.
Aquæ menthæ . . . ℥j.
S.—15 ♏ every hour.

A change of air is of the utmost importance. Children taken from a hot tenement to the seashore, or any cool, shady place, improve perceptibly in a short time, if not too far collapsed.

Large enemata of tepid water, with or without the addition of some antiseptic drug (acid. salicyl.), should be tried in obstinate cases, but in dispensary practice this method cannot well be carried out.

Stimulation must not be delayed until symptoms of collapse are marked. Young children with high temperature, cold and clammy feet and hands, and a pulse too rapid to be counted, are frequently stimulated in vain. The best stimulants in his experience are:

℞.—Camphoræ . . . . gr. ¼.
Sacchar. . . . . gr. vj.
Pro dosi, one every three hours.

℞.—Camphoræ . . . . gr. ¼.
Pulv. Doveri . . . . gr. $\frac{1}{10}$.
Pro dosi, one every two hours.

℞.—Camphoræ . . . . gr. j.
Bismuthi . . . . gr. vj.
Pro dosi, one every two hours.

If the children vomit the drug, it will be necessary to give camphor in ether, or camphor, caffeine, and ether hypodermatically.

In dispensary practice children cannot be seen oftener than once every other day, or every day at the utmost; it is, therefore, a good plan to prescribe antifermentative medicine and camphor powders at one consultation, and direct the parent to give the powder after the medicine has been taken.

During the period of reconvalescence, astringents are indicated to combat the intestinal catarrh, such as tannic acid, acetate of lead, with or without opium. To guard against relapse, it is of the utmost importance to select the proper food for children deprived of the breast. In the majority of cases milk and oatmeal or barley gruel, in different proportions, according to age, with a pinch of salt, some sugar, and, if necessary, lime-water, will be the proper food for a child up to twelve months. This food has been repeatedly recommended by Prof. A. Jacobi for the past twenty-five years. If it fails, others should be tried. Dr. Caillé has had good results from the employment of the so-called "peptogenic milk powder," and one or two other preparations recently introduced.

MEDICAL PROGRESS.

A NEW AND IMPERVIOUS SURGICAL DRESSING.—Photoxylin, a substance in use amongst photographers, was recommended some time ago by DR. KRYSINSKI as a suitable material for mounting microscopic specimens, and more recently still it has been utilized by Professor Wahl, of St. Petersburg, as a substitute for collodion in surgical practice. A five per cent. solution in equal parts of alcohol and ether he finds preferable to collodion, as it adheres more firmly to the skin, not being so easily rubbed off in washing. It is absolutely impervious to liquids, and exerts a perfectly even compression on the tissues. In out-patient practice Prof. Wahl finds that, after small operations such as the extirpation of glands, the application of photoxylin solution enables him to dispense entirely with voluminous antiseptic dressings; also in plastic operations on the face, and in operations in the neighborhood of the male genital organs, such as those for the radical cure of hernia and castration, where it is very difficult to prevent the urine soaking through antiseptic dressings. Prof. Wahl, after carefully arresting all hemorrhage, closes the wound with sutures and gelatine plaster, and then covers the whole with a thin layer of wool soaked in a solution of photoxylin. This, it is stated, will remain eight or ten days, entirely resisting all the effects of moisture. Even in laparotomy, extensive dressings may, he believes, be dispensed with by painting a solution of photoxylin over the wound with a brush, or by the application of a layer of cotton-wool soaked in the same liquid. —*Lancet*, June 18, 1887.

A RARE COMPLICATION OF PLACENTA PRÆVIA.—DR. GEORGE LOGAN reports, in the *Lancet* of May 21, 1887, a case in which, in addition to placenta prævia, the placenta was adherent in the following remarkable manner: "After turning, the child was easily delivered, but it was dead. It now became evident why the placenta could not be extracted; it was intimately adherent to the head of the child. As nearly as could be calculated, the surface of attachment measured in diameter about two inches and a half, and the situation of its centre was a point a little below the posterior fontanelle. The neck of the child was very short, the head having the appearance of being attached to the trunk, without neck at all. The forehead receded very much, so that the supra-orbital ridges became very prominent, as were also the eyes; the bridge of the nose extended upward beyond the eyes, and separated them. The cord was quite natural, both at its origin and insertion, and in every other respect the child, which was a male, was well developed. The mother made a good recovery."

THE DISINFECTION OF DWELLINGS AND THEIR CONTENTS.—GUTTMANN and MERKE, at a recent meeting of the German Society for Hygiene, reported their experiments with solution of corrosive sublimate, one per cent., in spray, in the disinfection of carpets and hangings. It was found that colored materials and walls were not injured by the spray that was used, which made the surfaces quite wet. Of 200 carpets disinfected none were injured. Sublimate was found upon the walls twenty-seven days after the disinfection; and to hasten its removal a one per cent. solution of sodium carbonate was used, which formed an insoluble mercuric oxychloride, which could be easily removed from the walls by sponging and drying. Material saturated with cultures of anthrax and placed among the materials disinfected, showed a destruction of half the germs;

it is probable that improvements in the manipulation will increase the efficiency of the process. With ordinary care, those who made the disinfection were uninjured by the sublimate.—*Wiener medizinische Presse*, May 15, 1887.

TREATMENT OF FLATULENT DYSPEPSIA.—HUCHARD recommends the following formulæ:

Salicylate of bismuth . . .	2 parts.
Calcined magnesia	2 "
Powdered willow charcoal . .	3 "
Oil of anise.	1 part.

Of this powder a small teaspoonful may be taken an hour or a half hour before a meal. When gastralgia is added to flatulent dyspepsia, he recommends the following:

Syrup of peppermint. . . .	250 parts.
Hydrochloric acid	1 part.
Hydrochlorate of cocaine. . .	$\frac{1}{10}$ "

of which a small glass (such as those in which liqueurs are served) may be taken after a meal.—*Revue Générale de Clinique et de Thérapeutique*, May 19, 1887.

INTUBATION OF THE LARYNX AT THE BOSTON CITY HOSPITAL.—DR. PRESCOTT, house surgeon, reports the following method of treatment by intubation at the above mentioned hospital:

The treatment has been the same as in tracheotomy, namely: light steam, stimulants, poultice over chest; Dobell's solution[1] as a throat spray. A solution of corrosive sublimate (1 to 15,000) was applied to nasal mucous membrane when there was any nasal discharge. Occasionally small doses of the bichloride of mercury were given. Tincture of digitalis, in small doses, was also given when the urine was scanty, and pepsin to assist digestion, when necessary. At first nourishment was given in enemata, but it was soon found that all the nourishment needed could be given by mouth, without difficulty. Semi-solids cause the least trouble. The first and last "swallows" are the ones that cause the coughing which is always set up, and so it is best to let the child take a mug of milk and drink it rapidly.

The advantages of intubation, as compared with tracheotomy are: 1. There is no wound, and therefore it will be allowed where tracheotomy might not be. 2. There is not added another source by means of which infection may take place. 3. It can be done more quickly. 4. It is less troublesome both in its performance and its after-care. 5. There is not as much discharge. 6. The shock is not as great. 7. No anæsthetic is needed.

The great disadvantage is that the parts below the larynx cannot be kept as free from mucus and membrane as in tracheotomy. Although the fact that intubtion can be done more quickly has been put as an advantage, I do not wish to imply that it is a simple procedure. It is not easy, and should be done with a great deal of care and very little force. The statement has been made that it is easier to put a tube into the larynx than into the œsophagus; the experience at the hospital does not bear out the statement.

The method of inserting the tube, as done at the hospital, is as follows: The tube with the silk attached having been put on the obturator, the child should be held upright by an assistant, sitting in a chair facing the operator, with its head held firmly and a little forward. The gag is introduced on the right side and kept as far back as possible. The operator then introduces his left forefinger into the mouth and passes it downward and backward until he feels the epiglottis; he now passes the tube along the palmar surface of his left forefinger (keeping in the median line) until the tube reaches the epiglottis, when, by an upward movement of the right hand, he can easily put it in place. The left forefinger having been placed on the tube the obturator is withdrawn. After a few minutes, the breathing being quiet and the tube having again been felt in position, the silk suture may be removed, and the patient put to bed.

The number of cases is too small to be of much service in forming an opinion as to the relative value of intubation and tracheotomy from the standpoint of percentage of recoveries; for if the statistics of tracheotomy at this hospital are examined, the percentage of recoveries in any given six months will be found to vary from ten per cent. to thirty-five and even forty per cent.—*Boston Medical and Surgical Journal*, June 2, 1887.

AN APPLICATION FOR BURNS OF THE SECOND AND THIRD DEGREES.—

℞.—Terræ albæ,	
Ol. olivæ.	āā ℥ 7½.
Plumbi subacetat.	gr. ½.
Iodoform.	℥ 2 to 4.

Mix: Apply with a spatula, and cover with gutta-percha tissue or cotton, and a muslin bandage.—*Journal de Médecine*, May 16, 1887.

TRANSPERITONEAL NEPHRECTOMY.—TERRIER reported, at a recent meeting of the French Society of Surgery, two cases of nephrectomy in which he sutured both layers of the peritoneum to the anterior abdominal incision; the pocket formed by the removal of the kidney was thus drained anteriorly. He prefers the abdominal incision in large tumors projecting anteriorly. —*Gazette Hebdomadaire*, No. 12.

USE OF COCAINE.—At a recent meeting of the Society of Therapeutics of Paris, DUJARDIN-BEAUMETZ reported his use of cocaine in the throat to render more easy gastric lavage. He had given it internally, in gastric disorders, in a solution of 1 to 600, two teaspoonfuls every fifteen minutes, to allay pain and vomiting. He had also given four injections, of half a hypodermatic syringe each, of a solution of 1 to 50, in the vicinity of the anus, and had thus obtained anæsthesia sufficient to dilate forcibly the sphincter without pain; a pledget of cotton saturated in the same solution may be placed in the bowel. In pleurotomy similar injections may be made at each extremity of a proposed incision.

All such injections should be given with the patient in a horizontal posture, to avoid syncope.

[1] Dobell's solution:

℞.—Carbolic acid	℥ iss.
Borax, Bicarb. soda }	āā ℥ i.
Glycerine	℥ iiss.
Water	ad Oiv.

He thought that as much as eight grains of cocaine could be given internally in twenty-four hours.—*Gazette Hebdomadaire*, May 6, 1887.

MIKULICZ'S METHOD OF DRAINING THE PERITONEAL CAVITY.—DR. FENGER, of Chicago, describes his use of the above method in cases reported in the *Journal of the American Medical Association*, of May 21, 1887:

About a year ago Mikulicz, of Cracow, proposed the following method of drainage, not only for retro-peritoneal cysts, which can be excluded from the general peritoneal cavity, by uniting them to the abdominal wound, but also for drainage in the peritoneal cavity itself. He takes a small piece of iodoform gauze, stitches a silk thread to the centre of it, and folds it up in the form of a pouch, the silk thread being inside, that the pouch may be drawn up from the bottom by it. The pouch is now pushed down to the bottom of the cavity, and if nooks and corners exist, it is pushed out so as to fill them completely. The inside of the pouch is packed with iodoform gauze, as much as is necessary to fill up these spaces completely. This is the advantage claimed by Mikulicz for his method of drainage as compared with the use of glass or rubber drainage. Besides the disinfectant properties of the iodoform gauze applied to the entire wall of such a cyst, Mikulicz states, as one of the advantages of his method, that, by the capillary attraction of the gauze, everything is brought out—fluids which a glass or rubber drain could not bring out. We must remember that when we drain the peritoneal cavity with a glass drain down between the intestines, or in the cavity of the cyst, we cannot always expect to get surrounding organs in so close contact with the drain as to drive out the fluid.

Further, there is this to consider: that a glass drain put down in the free peritoneal cavity has no tendency to bring out the fluid accumulated at the bottom; the intestines, filled with air, will simply swim in the fluid, and there is no pressure from without that will bring this fluid out of the glass drain, while the capillarity of the gauze is likely to help in that direction. I have had this remain in all these cases for about two weeks. As soon as the discharge ceases I commence first to pull out the loose gauze inside the sac. If a space is left after this has been pulled out, I press in at that dressing a little more gauze. This is gradually removed, and the pouch itself is then pulled out by the thread gradually and finally. In all my cases it came out about the end of the second week.

THE TREATMENT OF PAIN ABOUT THE COCCYX.—MÉNIÈRE, in addition to the relief of constipation and the use of counter-irritants, advises the following, in suppository, per rectum:

Ol. theobrom.	♏ 20.
Ex. belladonn.	gr. ¼.
Ext. hyoscyami	gr. ¾.
Iodoform	gr. ¾.

To be used before retiring.

In severe coccyalgia he recommends the following:

Ol. theobrom.	♏ 20.
Ext. valerian.	gr. 1½.
Chloral. hydrat.	gr. 1½.

To be made into a rectal suppository which may be replaced, if necessary, by an injection of forty minims of

Adipis	ʒ 5.
Ext. valerian.	♏ 15.
Ext. belladonn.	♏ 8.
Chloral. hydrat.	gr. 15.

—*Gazette de Gynécologie*, May 15, 1887.

THE PERSISTENCE OF TYPHOID BACILLI.—FRANKEL, of Berlin, observed an interesting case in which a patient who had typhoid fever, had relapses at intervals of six weeks and four months, after which a fluctuating abdominal tumor developed. Aspiration gave pus and typhoid bacilli, cultures of which were characteristic. The case was regarded as one of inflammation produced by the persistence of the typhoid bacillus which had multiplied, instead of attenuating after the disease had abated, as usually happens.—*Gazette Hebdomadaire*, May 20, 1887.

THE MODERN TREATMENT OF URETHRITIS.—DR. BREWER, in an article in the *Journal of Cutaneous and Genito-Urinary Diseases* for May, gives his results of treatment as follows:

In conclusion, I think it may be fairly stated:

1st. That in uncomplicated cases of acute gonorrhœal urethritis, treated by prolonged and frequent irrigation with bichloride of mercury, recovery may be expected within two weeks; that this period may be considerably shortened by the early inauguration of treatment, by absolute rest, and by the avoidance of stimulants; that it may be indefinitely prolonged by irregularity in treatment, by inordinate physical exertion, and by indulgence in alcoholic and venereal excesses.

2d. That the retrojection of a hot solution of bichloride possesses all the advantages of the former procedure, and in addition causes a more rapid subsidence of the inflammatory symptoms, a greater feeling of comfort to the patient, and is attended with less annoyance and trouble.

3d. That in cases of acute non-specific urethritis, the favorable influence of each of these methods is strikingly apparent.

4th. That in cases of chronic purulent urethritis, no agent produces such rapid and permanent improvement as irrigation, especially when combined with astringents and heat.

5th. That the percentage of complications occurring in cases treated by these methods is far below that observed when the ordinary methods are employed.

TREATMENT OF CHOREA.—DESCROIZILLES prescribes as follows:

℞.—Zinci valerian.
Ext. hyoscyami,
Bismuth. subnitrat. āā gr. 15.—M.
Divide in pill 30 in number.

Sig.—From 3 to 6 pills daily.—*Journal de Médecine de Paris*, May 23, 1887.

ALMÉN'S TEST FOR SUGAR.—Of all tests for sugar in urine, Fehling's is undoubtedly the most satisfactory. The only objection that can be urged against it is the difficulty of preserving it a sufficient length of time, so

that unless recently prepared it may lead to fallacious results, owing to stale solutions having a tendency to throw down the suboxide of copper spontaneously when heated. This, of course, is a great disadvantage to practitioners, who may be seldom called upon to use the test, and are at a distance from manufacturing chemists from whom they may procure a fresh supply. To remedy this Professor Almén, of Upsala, has improved the old bismuth test for sugar, and has prepared a solution which has the advantage of keeping unchanged for years, and being at the same time an extremely delicate test for sugar in urine. It consists of a solution of bismuth subnitrate, with caustic soda and potassio-sodium tartrate. In testing for sugar, the albumen, if present, must be first removed by precipitation by heat and acid, and one part of the solution treated with ten of the urine, when if sugar is present the bismuth will be deposited in a metallic state. The test is sufficiently delicate to detect sugar in the proportion of only 0.05 per cent. This test, as we have already said, is chiefly valuable on account of its preservative qualities, keeping well on board ship and in hot climates, though we doubt if it will supersede the use of Fehling's solution, especially as the latter is now supplied in hermetically sealed capsules which preserve the test for a considerable time.—*Lancet*, May 14, 1887.

TREATMENT OF OZÆNA BY ANIMAL GRAFTING.—In a research upon "Animal Grafting with the Skin of the Frog, in Losses of Cutaneous and Mucous Substance," undertaken along with Dr. Dubousquet-Laborderie, BARATOUX publishes observations upon ozæna, atrophic rhinitis with ulcerations, in which he obtained a complete cure by engrafting the skin of a frog over the ulcerated surfaces. He has thus treated eleven patients having ozæna and ulcerative non-specific rhinitis. In all these subjects he employed ten to twenty grafts, of which more than half have succeeded, and all the patients have derived much benefit from the treatment. He has always succeeded in obtaining a smooth mucous membrane. He takes the frog's skin from the interdigital membrane, the nictitating membrane, the belly, the lateral parts, by scissors, and places upon the raw surface with forceps, or by a special pipette (by blowing through the free extremity).—*Journal of Laryngology*, May, 1887.

TESTING MENTHOL PENCILS.—MYLIUS recommends testing the genuineness of the so-called migraine pencils by the following characteristics: The pencils should be of a coarsely crystalline structure, translucent, and not chalky. When scraped in water, the pencil should make the impression as if it were composed of a hard salt, and should not present a fatty or waxy appearance. If a small portion of the pencil be put into a narrow tube, and the latter be heated in a bath of diluted sulphuric acid, the mass should melt at a temperature at or below 38° C. (pure menthol melts at 36° C). The whole mass of the pencil should melt at once, not successive layers from time to time. All substances used for adulterating the mass possess a higher melting-point, except some very low melting paraffines. But the latter are left behind, if the pencils are dissolved in alcohol.—*Technics*, May 3, 1887.

THALLIN IN GONORRHŒA.—KREIS and GOLL have tested the effect of thallin upon the gonococcus and have found cultures of the germ destroyed by the drug. The sulphate in watery solution was used.

Staphylococcus aureus and anthrax bacilli were not affected by thallin.

After the internal administration of thallin the urine is strongly acid, and such urine undergoes ammoniacal decomposition much less early than urine ordinarily.

Injections of tartrate of thallin, 1 per cent., were well borne by the patients, but were without result. Solutions of 1½ or 2 per cent. were but slightly irritant but showed good results. Decided improvement, however, followed the use of solutions of 2 and 2½ per cent. in strength, with but slight irritation accompanying it.

In chronic gonorrhœa thallin gave good results when used immediately after the passage of a sound in solutions 1–1½ per cent. in strength.—*Centralblatt für Chirurgie*, May 7, 1887.

A COMMON ANTIDOTE.—A poison antidote table says that equal parts of calcined magnesia, powdered charcoal, and hydrated peroxide of iron, in a sufficient quantity of water, is a general antidote for poisoning, for use when the poison is not known. It is a perfectly harmless and simple preparation.—*Technics*, May 17, 1887.

CARMINATIVES AND THE ABSORPTION OF GAS BY THE INTESTINES.—Some experiments which were performed several years ago by DRS. LAUDER BRUNTON and CASH, with a view to determine how carminatives act in relieving flatulence, have just been published. The gases used in the experiments were atmospheric air, carbonic acid gas, hydrogen, marsh gas, coal gas, and sulphuretted hydrogen. With the exception of one experiment the oil of cloves was the only carminative used. In each experiment they first tested the gases alone, and then again after the administration of the carminative. They found that little or no absorption took place when atmospheric air, hydrogen, coal gas, or marsh gas was used, and the addition of the carminative did not seem to increase the absorption. It was only in the case of carbonic acid that the carminative seemed to aid in absorption, and this was due probably more to the effect on the movements of the intestine than to direct absorption of gas. The oil of cloves caused a marked increase in the secretion of the intestine—a fact which, perhaps, explains the advisability of combining carminatives with purgatives. In regard to sulphuretted hydrogen, it was found that its absorption proceeded so rapidly as to produce even fatal poisoning, but carminatives did not exert much influence in increasing the absorption.—*Practitioner*, May, 1887.

A USEFUL POWDER FOR THE TREATMENT OF THE URIC ACID DIATHESIS.—DRUITT is quoted by the *Journal de Médecine de Paris* of May 22, 1887, as prescribing as follows:

℞.—Borac. pulver. . . . gr. 15.
Sodii bicarbon. pulv.
Potass. nitrat. pulv. . . āā gr. 8.
for each powder.

To be taken 3 times daily in abundant fluid.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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SATURDAY, JULY 9, 1887.

THE CROWN PRINCE'S CONDITION.

(*Special Cablegram.*)

WE are in receipt of the following cablegram from Dr. Morell Mackenzie.

LONDON, July 7.

"THE last operation upon the Crown Prince has succeeded completely, and no projecting portion of the growth remains. Professor Virchow reports that the excised piece shows, even more clearly than the previous ones, as a hard, composite, warty growth, out of a moderately irritated and thickened surface. The base shows not the slightest ground for assuming the existence of a new growth penetrating into the tissue."

The above cablegram conveys most gratifying information concerning the present condition of the Crown Prince, and it effectually allays anxiety as to the grave possibilities which the earlier reports led the public to fear were involved in the case. It also fully confirms the favorable opinion which Dr. Mackenzie and Prof. Virchow had formed of the character of the morbid growth on the vocal cord, and justifies Dr. Mackenzie's belief, expressed at the first consultation in Berlin, in the feasibility of its successful removal by intralaryngeal operation.

THE SPREAD OF SCARLATINA AND TUBERCULOSIS BY MILK.

THE recent lecture of KLEIN before the Royal Institution of London, established beyond reasonable doubt the conclusions drawn from his previous researches and those of POWER, regarding milk as a medium of direct contagion in scarlatina. It will be remembered that for several years past the suspicion that milk might be the carrier of scarlatina and other diseases has been rife in England; but the epidemic of 1885, near London, and the exhaustive study made by Power at that time, have demonstrated conclusively that diseased cows at Hendon farm communicated to their milk a substance which caused the disease in those consuming it. It could not be ascertained where these cows became infected, nor whether those who bred or reared them were the subjects of disease. Upon the teats of the diseased animals ulcers, varying from a quarter to three-quarters of an inch in diameter, were found, which were covered with a brownish scab, and had granulating, slightly indurated bases. Observation showed that small vesicles made their appearance on a reddened, greatly swollen teat, which became ulcers in a couple of days. As a rule, the disease affected the teats only, but sometimes attacked the lower portion of the udder also. Matter from these ulcers and their scabs produced a similar disease when inoculated in other animals. In this matter a streptococcus was found, whose cultures in agar agar and gelatine produced the disease by inoculation in calves, which revealed the lesions of scarlatina on post-mortem examination.

Klein's recent experiments embraced the inoculation of animals by virus obtained from the human being, and also from the animals at Hendon, and their results corresponded, both in gross and microscopic appearances, and also with the results of culture experiments with germs procured from both sources.

Among the interesting pieces of corroborative evidence was the finding of the micrococcus in a cheap quality of condensed milk, and the production of the disease by cultures of this material. The chain of proof was sufficiently strong for Klein to conclude that "The *micrococcus scarlatinæ* is the cause of human scarlet fever; that it produces in bovine animals a disease identical with the Hendon disease and human scarlet fever, and that while the cow is susceptible to infection with human scarlet fever, it can, in its turn, be the source of contagion for the human species." Contagious matter is introduced into the milk by pressure upon the ulcerated teats during milking.

Klein's report has led to earnest discussion in England, where the purity of food is a subject of constant study and legal supervision.

JAMIESON and EDINGTON, of Edinburgh, have recently made observations upon the scarlatina germ as obtained from the human subject. The blood was examined as early as possible in a case of scarlatina, and the presence or absence of the

germ noted. An area of skin was then selected, sterilized, and protected from contamination until desquamation occurred, when the rejected epithelia were examined for the bacilli. With cultures made from the germs found in desquamated epithelia they produced scarlatina in animals, whose blood yielded bacilli giving characteristic cultures. Their investigations have not been carried sufficiently far, as yet, to be compared with those of Klein; but are of great interest and value. While it is true that there are several vesicular diseases of cows' udders which are not always clearly differentiated, some of which may be innocuous to human beings, yet the chain of evidence offered by Klein leaves little room for doubt that the streptococcus he has found causes human scarlet fever.

An added danger in the use of milk from diseased animals was emphasized by a report given by GAUTIER to the French Academy of Sciences at a recent meeting. He has studied the transmission of tubercular infection by milk and cheese from tuberculous cows. He produced tuberculosis in rabbits by these materials; and after an extended series of experiments he concludes that not only tuberculous milk, but the substances made from it and used for food contain infectious matter. A human being may be inoculated with tubercle by consuming tuberculous milk in the form of fresh milk; curdled or "clotted" milk; fresh cheese; dried or salted cheese; or curds and whey. Fowls and pigs may be also inoculated by such milk, and he explains the frequency of the disease in animals partly on these grounds. He advises the greatest caution in the use by human beings of milk from tuberculous cows; and also that all milk fed to fowls and pigs be thoroughly boiled.

We may obtain an idea of the frequency of tuberculosis in cows from the statement by BLAINE and EDSON, of the Health Department of New York, that two per cent. of all animals slaughtered at the abattoirs of New York, and twenty-one per cent. of all milch cows, have tuberculosis.

MILLER, State Veterinary Surgeon of New Jersey, reports to the Bureau of Animal Industry at Washington, that tuberculosis is affecting cattle in eight counties of New Jersey; the number of herds reported being fifty-three. Finely bred cows, giving large quantities of milk, are most often affected, and frequent examples of heredity are seen. The meat of such animals, as well as the milk, is frequently sold, and is a ready means of contagion.

Systematic, thorough examination of all foods is a crying need. The recent opening of a model dairy near London, at which a number of distinguished medical men were present, indicates the proper attitude of the profession on this subject. Veterinary medicine is steadily advancing among us, and the vigilance of the law and the hearty coöperation of medical men are needed to close avenues of attack to the most deadly enemy of human life.

SÄNGER'S OPERATION.

THE application of the principles of conservative surgery to obstetrics has produced an operation whose results challenge consideration. A modification of the classic Cæsarean section, it deals successfully with the most serious complications of parturition. Since its first performance in 1880, out of 53 cases operated upon, 37 mothers and 47 children have been saved, a gain of 30 per cent. over the results of Porro's operation, up to that time the best procedure known. Nearly all these successes have been attained in the maternities of Dresden and Leipzig, where the operations have been performed by different men, but under one plan. While parts of this method had been used by others in various operations, yet Sänger is proved by his own writings and by the critical studies of Harris, to have first instituted and clearly defined the operation which bears his name.

Sänger's purpose, and his method of accomplishment, as stated in a communication to the *American Journal of Obstetrics* for June, 1887, will be found in the "Progress" columns of this issue of THE NEWS. The operation is to be done early; to be antiseptic; and eventration of the uterus, temporary compression of the lower uterine ligament by rubber ligature, and the details of ventrotomy are to be carefully observed.

The most frequent indication for the operation is contracted pelvis; and Credé, recently reporting the seventh successful case at Leipzig, in the *Archiv für Gynäkologie*, Band xxx., Heft 2, states that of cases of this kind operated upon 82.5 per cent. recover. A successful case at Erlangen is reported in detail in the same number by Döderlein.

In America 7 operations have been done; 1 mother and 4 children have recovered; mortality, mothers, $85\frac{5}{7}$ per cent.; children, $42\frac{4}{7}$ per cent. The successful operator is Lusk, of New York, whose case was reported in full in THE MEDICAL NEWS of May 7, 1887, page 527. These statistics contrast forcibly with the German, $88\frac{2}{10}$ per cent. of mothers having recovered, and $94\frac{1}{10}$ per cent. of children. The fondness of American obstetricians for efforts at forceps delivery in contracted pelves, and tardiness in operating, and lack of well-trained assistants, may be reckoned among the causes of this mortality.

Credé's report of the examination of the patient, two months after recovery, whose case he describes, is interesting: "I found the abdominal cicatrix a fine, straight line, without enlargement, freely movable in all directions; the aponeuroses and integu-

ment adherent. The uterus was entirely separated from the abdominal cicatrix; it was small, not sensitive, and freely movable. Menstruation had recurred eight weeks after recovery."

The great superiority in the results of Sänger's over the Porro-Müller operation indicates its performance in all cases demanding Cæsarean section, except those in which the uterus is in such a condition that its removal is imperative; as after prolonged labor, after exhaustion and unsuccessful attempts at instrumental delivery *per vaginam* had induced uterine atony and beginning decomposition.

For those who object to giving to an operation a personal name the title Cæsarean section, with multiple seroso-serous suture, has been proposed, and we think describes the essential characteristics of this operation.

THE CONTAGIOUS DIARRHŒA OF NURSING CHILDREN, AND ITS BACILLUS.

HAYEM recently reported to the Academy of Medicine some investigations which he had made to determine the nature of the contagious element in the diarrhœa of nursing children, and its most efficient treatment. He was led by the failure of general medication to prevent relapses, to order all bedding and linen of the little patients to be disinfected with bichloride of mercury, when he observed that the disease, which had become epidemic, was checked.

An examination of the dejecta showed that the greenish color present was dependent upon masses of bacilli and substances formed by them. Cultures were readily made of these microbes, and their behavior toward various antiseptics observed. The reaction of the matter in which they were voided he found was neutral or alkaline; and accordingly the effect of acids was tried. It was found that lactic acid, even in small quantities, destroyed the cultures made upon peptonized gelatine.

In doses of a teaspoonful of a solution of two parts to one hundred of water, given a quarter of an hour after nursing, and repeated from five to eight times daily, lactic acid gave excellent therapeutic results, surpassing naphthalin, iodoform, sulphide of mercury, and calomel.

Hayem concludes that altered gastric secretions, in the dyspepsias of nurslings, permit the microbes to enter the intestine with their germinating power undestroyed; and finding there an alkaline medium of growth, they increase rapidly. He considers that the dejecta, as received upon linen and bedding, contain the contagious elements. He has instituted experiments upon young animals with the cultures obtained from his patients, the results of which will be of interest.

VIGIER recommends in the *Gazette Hebdomadaire*, June 17, 1887, the following formula:

℞.—Acid. lactici . . . . . 2 parts.
Syrup. simpl. . . . . 98 "
Essentiæ citronis . . . . q. s.—M.
Filter.
Sig.—2 or 3 teaspoonfuls daily.

Koch has already shown, in his studies of the comma-bacillus of cholera, that they are killed by the lactic acid of the normal gastric secretion, and that it is when the activity of this physiological safeguard is interfered with or destroyed that the bacilli pass uninjured into the intestines, to multiply and produce the characteristic disturbances there. The effects of lactic acid upon these microbes, and the recent investigations of KOLISCHER, of Vienna, upon the tubercle bacilli as affected by phosphoric acid, suggest the acids as a class of germicides whose study promises information of practical value.

THE yellow fever at Key West appears to be on the increase. Three new cases were reported on Tuesday and three deaths.

DR. JOSEPH D. BRYANT, Professor of Anatomy and Clinical Surgery in Bellevue Hospital Medical College, has been appointed by the Mayor of New York a Health Commissioner, *vice* Dr. Woolsey Johnson, deceased.

THE Gross Medical College has been organized at Denver, Colorado. It is the Medical Department of the Rocky Mountain University. It announces a collegiate term of seven months, beginning September 21st next. Professor Clayton Parkhill is Secretary of the Faculty.

REVIEWS.

A TEXT-BOOK OF MEDICINE FOR STUDENTS AND PRACTITIONERS. By ADOLF STRÜMPELL, formerly Professor and Director of the Medical Policlinic at the University of Leipsic. Translated from the Second and Third German Editions by HERMAN V. VICKERY, M.D., and PHILIP C. KNAPP, M.D., with Editorial Notes by FREDERICK C. SHATTUCK, M.D. New York: D. Appleton & Co., 1887.

UNDOUBTEDLY one of the best of modern text-books of medicine in the German language, is that of Strümpell, formerly professor at the Medical Policlinic in Leipsig. It is, therefore, with great pleasure that we welcome its translation into English by Herman F. Vickery and Philip C. Knapp, with editorial notes by Frederick C. Shattuck.

The translation is accurate without being too literal. There is no attempt to drag German idioms into the English language, but the English itself is idiomatic. The treatment has not been adapted to the United States

Pharmacopœia, though notes giving the formula of distinctly German preparations have been added whenever necessary, and all measures except those of length have been changed from metric into English denominations.

The work is too large to give any detailed account of its contents. The chapters on acute infectious diseases occupy 109 pages; those on diseases of the respiratory organs 166, with other affections in a corresponding ratio.

Strümpell's text-book is probably most highly thought of for its chapters on the diseases of the nervous system; and the translators have increased the value of this portion of the work by adding foot-notes containing the results of investigations made since the last German edition was published. Numerous valuable and judicious notes by the editor are also scattered throughout the work, but not to an extent sufficient to interfere in any way with its individuality.

The therapy is not in all respects exactly that to which Americans are accustomed, but this fact is rather an advantage than otherwise, as tending to make us more cosmopolitan in our knowledge. It can be said with assurance that the purchaser of this text-book will not have cause to regret his investment.

L'AMPUTATION DU MEMBRE SUPÈRIEUR DANS LA CONTIGUITÉ DU TRONC. (INTERSCAPULO-THORACIC AMPUTATION). Par PAUL BERGER, Chirurgien de l'Hôpital Tenon, Professeur Agrégé a la Faculté de Médecine, etc. Paris: G. Masson, 1887.

INTERSCAPULO-THORACIC AMPUTATION OF THE UPPER EXTREMITY. By PAUL BERGER. Paris, 1887.

WITH commendable industry Prof. Paul Berger, of Paris, has collated all the literature extant, bearing upon the subject of total ablation of the upper extremity and scapula, and has presented the results of his researches in the above mentioned monograph. So far as appears, the upper extremity and scapula have been removed fifty-one times, for various causes, such as tumors of the humerus or scapula, osteitis, and gunshot wounds, with a variable degree of mortality, about 20 per cent. succumbing after operations performed for the removal of diseased conditions, whilst 30 per cent. of traumatic cases die.

The operation has been performed eleven times in America, the first operator having been Prof. Dixi Crosby, of Hanover, N. H. The combined mortality from all operations is about 25 per cent., but probably the improved methods of antiseptic surgery introduced within recent years would materially lessen this mortality. The dangers to be apprehended are those incident to operations in the proximity of large bloodvessels, hemorrhage, entrance of air into the veins, and shock, and all are more or less preventable. Strange to say, the mortality after secondary removal of the scapula is equally as great as that of complete removal of the upper extremity and scapula at one operation. Not infrequently a large portion of the clavicle has been removed at the same time. Notwithstanding that cases of accidental separation of the upper extremity and scapula had been known since the time of Cheselden, it was not until 1808 that any surgeon deliberately removed these structures as a therapeutic resource. In this year, Ralph Cumming, an English naval surgeon practised for the first time the simultaneous ablation of the arm, scapula, and clavicle for a gunshot wound, the patient surviving. To anyone desiring information in regard to this useful but rare operation, we heartily commend this treatise, which is a complete study, historical, critical, and practical, of the whole subject.

SOCIETY PROCEEDINGS.

PHILADELPHIA NEUROLOGICAL SOCIETY.

Stated Meeting, April 26, 1887.

THE VICE-PRESIDENT, CHARLES K. MILLS, M.D., IN THE CHAIR.

DR. LANDON CARTER GRAY, of Brooklyn, read, by invitation, a paper on

SYPHILIS OF THE NERVOUS SYSTEM, AND ITS TREATMENT.

(See page 33.)

DR. H. C. WOOD said that there were only two points in this interesting paper on which he felt disposed to speak. First, with reference to the connection between migraine and epilepsy. This theory dates back especially to Trousseau, who, as we know, gave the name of epileptiform neuralgia to migraine. Migraine certainly does occur in epileptic patients, but he doubted if it occurs more frequently in this class than in the community at large. He could not remember to have ever seen an epileptic patient who also suffered with migraine, nor had he ever seen a patient with migraine affected with epilepsy. It is entirely possible for an epileptic discharge to be sensory occasionally, but he thought that true epileptic migraine must be exceedingly rare. In regard to the use of mercury, he was much surprised at the position taken. He fully agreed with the author as to the value of iodide of potassium in nervous syphilis. He had, however, never used it in doses as large as Dr. Gray mentioned. He rarely exceeds one-half an ounce, and he thought that three hundred grains in the twenty-four hours will accomplish all that a larger dose will. In cases where time is an element of importance, mercury will accomplish all that the iodide does, and do it in a shorter time. He recalled one case seen in consultation with Dr. Mills which brought the importance of time clearly before him. They were giving large doses of iodide of potassium, and the man was steadily improving, and undoubtedly would have recovered if he had not died as the accidental result of an epileptiform convulsion. The convulsions were becoming less frequent and less severe, but on one occasion the fit stopped his breathing a little too long, and he died.

Nervous syphilis may be an early manifestation of syphilis, and he thought that all syphilographers agree that early syphilis yields better to mercury than to iodide of potassium. Again, in advanced syphilis, in iritis, we know the effect of mercury in causing the absorption of gummatous deposits. It is unreasonable to suppose that gummatous infiltrations in one situation will have a different relation to iodide of potassium and mercury from that which they will in another. Brain syphilis is amenable to exactly the same treatment as syphilis of any other portion of the body. The brain element has

little to do with it. It is the syphilis we have to treat. Therefore, in all cases where the symptoms are very urgent, and where there is danger from the accidental interference with the function of a vital part, he thought that mercury should be pushed until ptyalism is produced. After that the iodides may be used. There also often comes a time in nervous syphilis when the iodide should be replaced by the tincture of the chloride of iron with the bichloride of mercury: twenty or thirty minims of the former with about one-twelfth of a grain of the latter. This will often effect a marked change within twenty-four hours.

DR. OSLER said that his experience with these affections has been somewhat limited. He has had considerable difficulty in determining whether an arterial lesion at the base of the brain was really a specific lesion, or whether it was an ordinary arteritis. He called to mind one case in which this difficulty arose. A man aged thirty years had the primary lesion eighteen months before his death. He had been treated for severe secondary symptoms and suddenly died from hemorrhage at the base of the brain. The first portion of the basilar artery was dilated and in a small region eroded and perforated. In the central portion of the basilar artery there was a nodular growth which partially obliterated a portion of the vessel. This was an early date for syphilitic arteritis to come on. The statistics of Heubner and others show that it is usually a late lesion of syphilis, although, as Dr. Wood has intimated, it may occasionally appear at an early date. In those instances in which, in addition to the arteritis, there is more or less meningeal thickening, there is less difficulty, although in one instance there was a doubt whether the lesion were syphilitic or tuberculous. In that case he thought that section of the arteries showed conclusively that the lesion was syphilitic. There are only two conditions in which we meet with fusiform nodular swelling of cerebral arteries—*i. e.*, in syphilis and tuberculosis. On section of the syphilitic nodules, the growth is always subintimal, and proliferation is entirely between the fenestrated coat and the endothelium, whereas, in the tubercular nodules, the infiltration is almost always adventitial. He had seen only one instance of multiple gummatous growths of the brain. In this case there were three growths attached to the meninges, varying in size from a marble to a large walnut. The remarkable comatose conditions which occur in connection with cerebral syphilis are of great interest. In one case in which there was a tumor of the brain, where the diagnosis of cerebral syphilis had been made by several neurologists, the periods of somnolence lasted from three to six weeks. He agreed with Dr. Wood as to the great value of mercury, particularly in the early stage of certain of these cases.

DR. E. N. BRUSH said that his attention was first directed to this subject by an attack of nervous syphilis in a medical friend. Nervous symptoms came on seven years after inoculation of his thumb by the original lesion. Speaking from his experience in the treatment of syphilitic diseases in general, he was sorry that he could not agree with Dr. Gray in regard to the inutility of mercury in the treatment of nervous diseases connected with syphilis. He agreed with him in regard to the value of iodide of potassium in large doses, perhaps not, however, of the size he advocates.

Dr. Gray has briefly referred to general paralysis of the insane as due to syphilis. Some one has said that probably eighty per cent. of brain diseases occurring between twenty-five and forty are due to syphilis. He was unable to speak as to the correctness of this statement, or as to how often syphilis is productive of paresis, but in a large proportion of the cases of general paresis that he has seen there has been a history of syphilis. With regard to prognosis in paretics with syphilitic history, he has come to think that many of these patients live longer if we do not pursue a too active treatment. His plan has been to keep a mild course of what has been called mixed treatment—small doses of mercury with medium doses of iodide of potassium.

DR. WHARTON SINKLER, while he did not underrate the value of mercury, said that his preference has been for iodide of potassium. The use of mercury is attended with some inconveniences, such as diarrhœa and ptyalism, and he has seen its use followed by the breaking down of old sores. He agreed with Dr. Gray as regards the unfavorable prognosis in cases of locomotor ataxia from syphilis. Many think that because a lesion is syphilitic it will yield to antisyphilitic remedies. His experience is that locomotor ataxia, due to syphilis, is as untractable as locomotor ataxia not due to that cause.

DR. FRANCIS X. DERCUM said that an interesting case which he has recently seen illustrates the point that locomotor ataxia, whether due to syphilis or not, should not be considered incurable. A case presented itself at the University Dispensary two or three years ago presenting the typical symptoms of ataxia to a marked degree. There was a possibility of syphilis, but no clear syphilitic history. He was at first placed on the mixed treatment and the iodide pushed without benefit. He was then given small doses of mercurials and this has been followed by marked improvement. The man is now able to walk without assistance. The element of time is often overlooked in these cases. After removing the infiltration of the nerve tissues, a certain time is required to permit the rebound of the depressed nervous tissues. Even when the lesions are cured the patient is not relieved of the profound impression made upon the entire organism and especially upon the nervous system.

DR. J. HENDRIE LLOYD had been unable to obtain any positive and definite views with regard to the relation of dementia paralytica to syphilis. The course of reasoning seems to be that because a patient with dementia paralytica has a history of syphilitic infection, therefore he has a syphilitic brain disease and the prognosis is favorable. This is a practical question, which has come home to this city in a very positive manner within the past few months, in the case of a prominent official. If we assume the case to be syphilitic, are there any characteristic histological or pathological lesions showing such to be the case? If we decide that a case of dementia is syphilitic in origin, have we a hopeful case for therapeutics? He thought that if we have the well-marked symptoms of dementia paralytica, we are justified in stating that the prognosis is exceedingly doubtful, whether the patient has had syphilis or not. In the autopsy of a well-known tragedian who had general paresis, he saw well marked the endarteritis described by Heubner; but there was in addition the evidence of a lepto-meningitis, or a cortical cerebritis,

as shown by marked opacity of the membranes and adherence of the gray matter to the pia mater, so that the cortex tore off with the pia. Dementia paralytica never depends merely upon an endarteritis of the large vessels, and this endarteritis might be difficult by itself to distinguish from such a condition as arises in gouty and other subjects.

DR. H. C. WOOD said, with reference to the points suggested by Dr. Lloyd, that he had come to some positive conclusions in his own mind, which have been verified by experience. In the case referred to, he said one year ago, that man had either brain syphilis, or dementia paralytica. We have, on the one hand, locomotor ataxia, due to sclerosis of the posterior columns of the spinal cord. In a large proportion of cases, this comes on in syphilitic subjects. The exact relation of the syphilis to the lesion is a matter of conjecture. The important clinical fact remains that if we have sclerosis, whether it occurs in a syphilitic or non-syphilitic person, it is not amenable to treatment. Dementia paralytica also occurs to a large extent in syphilitic individuals. We have, on the other hand, certain cases in which symptoms closely resemble those of locomotor ataxia, and are directly due to syphilitic alteration in the spinal cord, and are amenable to treatment. In another set of cases, the symptoms closely resemble those of dementia paralytica, but are really the direct result of syphilitic disease of the brain. We have these two sets of cases.

The practical point is, Can we in any given case determine whether we have the direct effects of syphilis or not? He thought that in the majority of cases a fair guess can be made. The symptoms of the syphilitic case are usually a little abnormal. For instance, he had a case resembling locomotor ataxia, but there were also epileptiform convulsions. He said this is a case of syphilitic disease.

So in apparent dementia paralytica, the man may have the delirium of grandeur, but he has other symptoms which do not belong to the true disease. This aberrancy from the usual type points toward syphilis. The only safe method is to give a guarded opinion.

DR. W. D. ROBINSON had now under his care a case of locomotor ataxia in which the diagnosis was confirmed by a number of prominent clinicians. This case has rapidly improved under the use of hydrobromate of hyoscine. When he came under his care the paralysis was almost complete. In order to relieve the pain he was taking six grains of morphia a day and three pints of alcoholic stimulants. He began with $\frac{1}{200}$ of a grain of hydrobromate of hyoscine every six hours. At the end of the month the morphia was done away with and the alcohol was reduced to one pint. The suffering was greatly relieved. The hyoscine was gradually increased until its physiological effects were induced. The ability to associate volition and motion began to return, and at the end of three months massage and electricity were added to the treatment. He then began the use of mercury. The man is now able to stand alone and with assistance is able to make a few steps. He would ask if Dr. Gray has found that syphilitic nervous disease has had a tendency to induce an uncontrollable appetite for alcohol. He had seen two or three instances in which this was claimed to be the case.

DR. MILLS said that Dr. Gray had referred to the occurrence of cephalalgia with hemiplegia, and the disappearance of the headache on the occurrence of the hemiplegia in a certain number of cases. He had observed the same thing, and some years ago, in a clinical lecture, advanced a view for its explanation. Usually in these cases there is a syphilitic tumor connected with the membranes. As the growth advances, it obliterates, by pressure and inflammation, the vessels which go to the part and there is breaking down behind the growth. This relieves the tension, and thus the headache is relieved. He had seen cases where the post-mortem indicated that this was the correct explanation. With reference to paretic dementia, his experience has been that where the disease is well developed the prognosis is as bad in a syphilitic as in a non-syphilitic case. The case is probably incurable, although there may be remissions. More stress should be laid on the element of time and fine tissue change than has been done. Dr. Gray has called attention to the fact that whether the cerebral syphilis is of the nature of a gumma, disease of the membranes, or endarteritis, there are certain foci of softening from the obliteration of vessels. These cannot be replaced any more than absolute tissue loss can be replaced anywhere else. He believed that the prognosis is always bad where there was widespread disease of the blood-vessels. The cases of locomotor ataxia which are said to be curable, he believed were not cases of spinal sclerosis. Often they were not even cases of spinal disease. He had seen cases which were undoubtedly examples of cerebellar disease, and even of cerebral disease. Dr. Wood relies on the presence of aberrant symptoms as indicating a probable syphilitic origin. If you have such aberrant symptoms, the chances are that the disease is not in the spinal cord.

In the treatment of syphilis of the nervous system he used both mercury and iodide of potassium. There are at present cases in the Philadelphia Hospital which illustrate the rapid improvement that may take place under the use of mercurial inunction. After the case had advanced to a certain point under the use of mercury, his plan was to substitute the iodide. In the cases that have advanced very far the iodide was the best remedy.

DR. GRAY, in closing the discussion, said, with regard to the use of mercury, that he had seen over and over what he had stated in his paper, that cases of syphilis of the nervous system that do badly under the use of mercury do well under the use of the iodides. He did not deny that some cases possibly may be cured with mercury, but he has never seen such a case. The iodides will do all that mercury will do; they will do more; and you can rely on them when you cannot rely on mercury.

With reference to Dr. Wood's statement that migraine is very infrequently conjoined with epilepsy, his experience has been very different. He could readily recall eight cases in which epilepsy was conjoined with migraine. He would say that the most frequent form of epilepsy is that in which loss of consciousness is conjoined with clonic and tonic movements. Next in frequency he would place epilepsy associated with migraine, and petit mal last.

In regard to the diagnosis of the arterial lesions of

syphilis, he believed that in certain cases it is not possible to make the diagnosis from the microscopical appearances alone. The limitation of the infiltration between the fenestrated coat and the intima occurs in other forms of endarteritis. Unless something is obtained from the studies of the bacillus, he did not see how it is possible to make a positive diagnosis from the microscopical appearances alone.

Dr. Wood relies on the aberrancy of the symptoms as indicating that in general paralysis the condition is due to syphilis. We are not acquainted with the pathology of this disease, but we know that the lesions, whatever they are, are limited to the cortex of the brain and the overlying pia mater. The pia mater contains the bloodvessels which dip down and form anastomoses in the region of the pyramidal cells. Some German investigator claims that there are very fine commissural fibres within the gray matter of the cortex, and that the affection starts in these fibres. The symptoms of a typical case are somewhat like these: a man will have, at varying periods of time, inequality of the pupils. This is often difficult to make sure of. Then there will be tremulousness of the tongue and facial muscles; then a certain thickness of speech. Now we may get the delirium of grandeur, but in the majority of cases we do not get that in the early stages. We can get precisely these symptoms from other affections. They may be brought about by meningitis due to alcoholism, trauma, or by traumatism in a syphilitic individual. It is impossible in the early stage, unless we can exclude all other conditions, to make a positive diagnosis. He thought that in general paresis and in locomotor ataxia, a large proportion of the cases occur in syphilitic subjects, and that there is about the same relation between syphilis and locomotor ataxia as there is between certain infantile paralyses and the febrile disorders of childhood. They are post-febrile disorders; so these are post-syphilitic disorders.

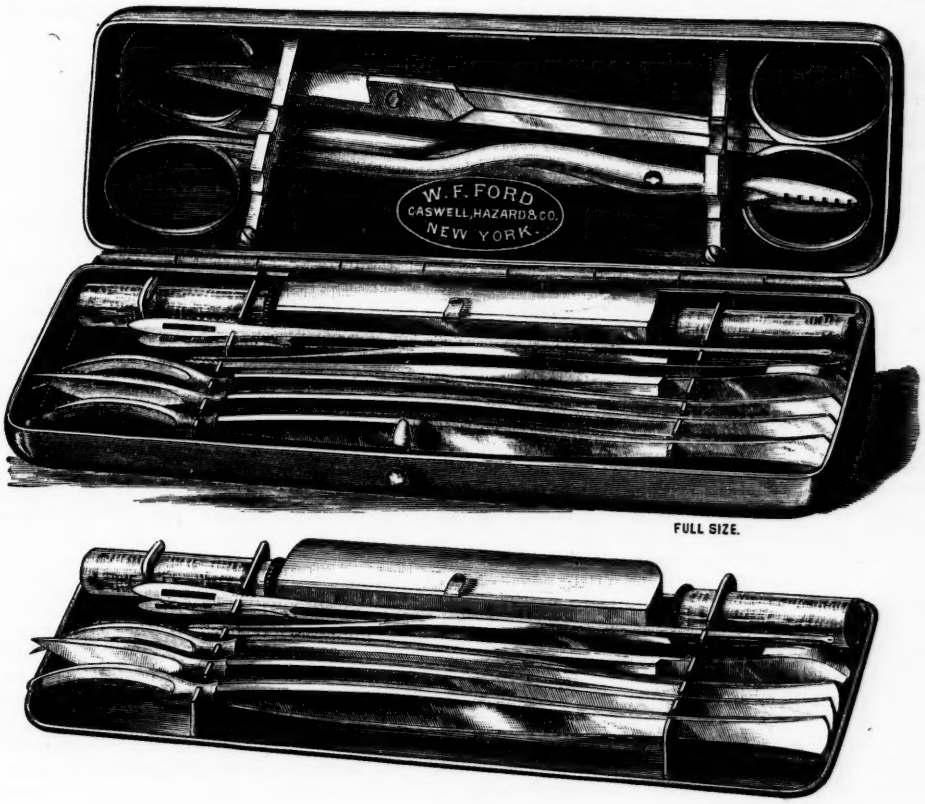
With reference to the induction of an appetite for alcohol by syphilitic disease of the nervous system, he had had no experience. He thought that the point made by Dr. Mills, that some of the cases set down as locomotor ataxia are not instances of this disease, is a good one. A German author recently gave the interesting history of a case in which there was syphilitic myelitis. The myelitis was peripheral, forming a narrow ring around the cord. This case presented many of the symptoms usually ascribed to locomotor ataxia.

NEW INVENTIONS.

AN ANTISEPTIC POCKET-CASE OF INSTRUMENTS.

BY ROBERT F. WEIR, M.D.,
OF NEW YORK.

I HAVE been using, for nearly a year, an antiseptic pocket-case of instruments, and this time-test has fairly proven its usefulness. In this age of surgical cleanliness, it must have been brought home to many that the



FULL SIZE.

closed instruments in the ordinary velvet-lined pocket-case are hard to keep clean, and free from being possible sources of infection to a wound. This particularly applies to the case itself, which often becomes not only dirty in the ordinary sense of the word, but also contaminated with the hasty contact of blood- and pus-stained fingers in the various emergencies in which a pocket-case is used. I have long felt this blot upon my unexpected surgical work, and have at length overcome the main difficulties in the way.

The pocket-case now presented has been made under my directions, by Ford, of New York. It is of metal, and by the omission of such instruments as a hernia knife, gum lancet, etc., the purposes of which can as well be carried out by the more ordinary knives, it has been reduced in size until it now measures five and a half inches long, two inches wide, and only three-quarters of an inch in thickness. This permits it to be readily carried in the vest or hip pocket. The annexed woodcut shows not only the actual size of the case, but also its contents. These may be varied to suit the ideas of different surgeons. As before stated, I have found by actual experience, that my surgical demands upon it have satisfactorily shown its competency.

It contains, as will be seen, but three knives, a scalpel, a sharp- and a probe-pointed bistoury. These are made out of a single piece of steel, with small handles to lighten their weight. Should a larger handle be desired, the wooden handles plated over with nickel, as now used in Hamburg, can be best resorted to. Next is a fine-pointed pair of thumb-forceps, and beyond this is a slot in which rest two silver probes and a steel director curved and eyed at one end, to serve as an aneurism-needle. Two small bottles, with rubber corks, to hold antiseptic catgut and silk, with a box for straight and curved needles, make up the lower part of the case, which can be lifted out entire by the button at one end, and thus allows of ready access and cleansing, and also of immersion in a carbolic solution. I may here remark that the straight Hagedorn needles should be tried by every surgeon, if not already resorted to, because of their ease of penetration, and also because their large eyes permit the carrying of catgut better than other needles of similar size. The curved needles of the same surgeon are better known, and possess the same qualifications.

In the lid of the case are found a pair of scissors and a dressing-forceps; the blades of each are on a pivot-joint, and separable. The forceps combine three instruments in one: a dressing-forceps of the ordinary type, a hæmostatic forceps, and needle-forceps, the deep transverse grooves suggested by Dr. Abbe, making the best and simplest holder of the Hagedorn needle that we have.

This case, I am informed by Hazard & Hazard, can be furnished at eighteen dollars, being nearly the same as the price of the ordinary Russian leather pocket-case.

CORRESPONDENCE.

LETTER FROM FLORENCE.

A Porro-Cæsarean Operation—Laparotomy Statistics.

I ESTEEM myself singularly fortunate in having had an opportunity to witness a "Porro" operation before leaving Florence, and although I cannot give such an account of the case as to render it of scientific value, I have no doubt that the new technique will be of sufficient interest to your readers to justify my describing it.

The operator was Dr. Giulio Kirch, a Florentine by birth but of German parentage, for three years an assistant to Prof. Chiara, and since recently settled in a neighboring town. I had an intimation of the case coming on and promise of an invitation but with slight hopes of being found. However, I was at lunch when the messenger came, and in a short while found myself in a small omnibus and on the way, packed in with instruments and apparatus, two female nurses of the hospital, and two young physicians, Dr. Martinetti, assistant of the Obstetrico-Gynecological Clinic, and Dr. Emilio Fasola, who was mentioned in my last letter as having had a successful Porro operation.

Landscape scenery does not usually enter into the report of a surgical case, but an exception may be claimed this time from the exceeding beauty of the ride. We crossed the Arno and beyond the suburbs began to ascend, the road winding up the mountain side, at every turn presenting delightful views over vineyards and olive orchards, of Florence, the valley, and the swelling hills and mountains beyond. It was like an Alpine ride except the lack of snow-covered peaks above. After reaching the summit we descended for quite a time into a valley as widespread, as undulating, and as beautiful as that of the Arno. At the end of about two hours and a half we turned into a country lane, and after driving through a vineyard stopped at a peasant's isolated house on the hillside where we found Dr. Kirch and a physician of the vicinity.

It required but slight examination to show that the exigencies of practice are just the same on one side of the ocean as the other. We ascended a rough stone staircase to a small chamber, under the brown rafters of which the operation was to be performed. The room was lighted by six panes of seven by nine glass. The floor was of large brick tiling about one-fourth of it so sunken that the given warning was not needed to keep us off it, and so to preserve us from precipitation to the room below. The furniture of the house was exhausted in preparing a table upon which to lay the patient and but one small stand could be had for instruments.

Soon all was ready, two spray apparatus were in operation, and the patient, under chloroform, was brought in from an adjoining apartment. She was a dwarfed young woman of twenty-four, unmarried, markedly rachitic from her short and crooked legs, but with a good country color in her cheeks. She had been in labor since morning—about ten hours. The abdomen was thoroughly washed with soap and solution of carbolic acid, the pubes shaved, and a vaginal disinfectant douche administered. I was kindly permitted to make an examination, but with the caution not to rupture the membranes. As I found them protruding well into the vagina, dilatation of the cervix being complete, of course I could not ascertain the character or extent of the pelvic deformity. The abdomen having been opened in the median line, from a little above the umbilicus downward, four sutures were passed through the walls at the upper part of the incision; these to draw the opening together and prevent escape of the intestines if necessary. The uterus was then carefully

palpated and an extremity of the child being recognized, the organ was incised. The hemorrhage at this period became very free, but not dangerous, although very much obscuring a view of the parts. The incision was rapidly prolonged, the membranes rupturing and liquor amnii escaping, and the child promptly extracted by the feet. It was a large, well-formed, male child, and after some vigorous treatment from the nurse, who received it from my hands, it began crying lustily. The uterus was now turned out of the abdominal cavity, the cervix above the vagina carefully made out, and a large needle armed with a strong elastic ligature was passed through it. Another large needle, unarmed, was passed through the cervix and left in situ. The ligature was then drawn tight around each half, the two strands being fastened by silk ligatures instead of being tied in a knot, the elastic ligature passed again around the whole pedicle and fastened in a similar manner. The upper three-fourths of the uterus containing the placenta was then cut away. This part of the operation took, of course, far more time than that of the removal of the child, and still more time was occupied in testing the accuracy of the ligatures and in cleansing the abdominal cavity, into which, however, but little fluid had entered. When all seemed satisfactory, the remnant of the uterus was trimmed down, that and the wound well dried and dusted with iodoform, and the abdomen closed, particular care being taken to approximate the edges with silk ligatures passed close to the projecting pedicle both above and below. The outside dressing was the same as described after ovariotomy, including the quilted pad with shot.

When the patient was placed in bed and had recovered from the chloroform, her condition was excellent; she had a good pulse, a good countenance, and no evidence of shock.

The selection in this case of the Porro operation instead of the improved Sänger method, was rather, so far as I could gather, with the view of future possibilities than anything else. The doctor recognized the Porro as the far more severe operation, and one far more difficult to perform. I will make arrangements before I leave to obtain information as to the termination of this case, and send word of the mother's fate. R.

FLORENCE, May 26, 1887.

Before leaving this city I am happy to be able to send word as to the result of the Porro operation described in my last. It has proved a complete success. The temperature never showed any considerable rise and on the tenth day, when last heard from, she was considered out of danger. The child also did well. This result is particularly gratifying under the circumstances, the surroundings of the patient having been sufficiently indicated, and neither of the trained hospital nurses having remained with her, care and attention of every kind devolved upon the doctor himself.

I am also able to give you the number of laparotomies performed by Prof. Chiara, in the hospital, during the years 1885 and 1886, with results. I expected to be able to give the different kind of operations, as ovariotomies, etc., but cannot do so. Still, the statistics are not without interest.

Number of operations	38
Number of deaths	6
Causes of death:	
Pelvic tuberculosis	1
Septicæmia	3
Vomiting	1
Hemorrhage	1

In the description of the ovariotomy it should have been stated that the pedicle, after having been ligatured, was thoroughly charred with the thermo-cautery.

R.

FLORENCE, June 11, 1887.

NEWS ITEMS.

PASTEUR'S TREATMENT IN BELGIUM.—The report of a commission appointed by the Belgium Government to report upon the establishment of an institute for Pasteur's treatment, is adverse to such a proceeding.

THE PENNSYLVANIA STATE MEDICAL SOCIETY elected Dr. R. J. Levis, of Philadelphia, President for the ensuing year, and decided to hold its next annual meeting in Philadelphia on the first Wednesday in June.

VON LANGENBECK, the distinguished German surgeon, has been successfully operated upon, the second time, for cataract, by Dr. Pagenstecher.

THE SPREAD OF PASTEUR'S TREATMENT.—In a letter replying to von Frisch, of Vienna, written on May 29, 1887, Pasteur declares that there are fourteen "institutes" where his treatment is carried out daily.

THE MORTALITY AMONG NURSES IN LYING-IN HOSPITALS.—The investigations of DOHRN, of Königsberg, have shown that the mortality among nurses in lying-in hospitals in which clinical instruction is given, is two or three times as great as that in similar institutions to which students are not admitted. Contagion introduced by students is considered the cause of this mortality, and more stringent government regulation of the admission of students to the German hospitals is urged.

M. ROBIN.—At the meeting of the Paris Academy of Medicine held on June 7, 1887, M. Robin was elected to membership.

HINTS IN PEPTONIZING MILK.—DR. BURROWS advises as follows in the *London Record* of May 16, 1887: As to the addition of water in the peptonizing process, adding water reduces the quantity of casein in cows' milk to that of mothers' milk; and besides this, serves an important office, in that *it prevents the action of the milk curdling ferment.* If water be not added, the rennet ferment present would curdle the milk, and then subsequently digest the curd. But in this case milk may be peptonized too much, and a bitter taste will be present.

Soda.—As to the addition of sodium bicarbonate, besides imparting to cows' milk the slight alkalinity natural to mother's milk, it affords the pancreatic digestive ferments a fluid resembling in reaction that in which they are normally active. *It also prevents the milk, if not fully peptonized, from curdling when boiled, for alkali albumins are not precipitated by heat.*

Cold and Boiling.—It should be stated that in predigesting milk boiling is advantageously resorted to when a discontinuance of the process is desired. If a peptonizing powder be added to a pint of milk, with a quarter or half a pint of water, and the whole allowed to stand in a small pail of water as hot as the hand can bear, at the expiration of from twenty to thirty minutes the milk will be peptonized sufficiently. If the milk be *not* then set on ice or boiled, peptonization will continue slowly, and the casein finally be wholly digested. If cows' milk be boiled, at the expiration of, say twenty or thirty minutes of peptonization, the casein will assume, on the addition of acid, a flocculent, flaky character, not unlike mothers' milk. Boiling destroys all digestive ferments. From all that one can judge, the results obtained with peptonized milk are of a satisfactory nature.

DR. KEITH AND HIS METHOD OF OPERATING.—DR. SENN describes, from personal observation, Dr. Keith and his methods as follows:

When we realize the limited hospital advantages which are furnished him in the Royal Infirmary, we must admire the man who can show such results. The victories which have been so dearly bought at the expense of health, and in all probability of a portion of life itself, are the most appropriate and lasting monuments of an unselfish life spent in the interests of the profession of his choice and suffering humanity. In the Royal Infirmary he has sixteen beds and only one nurse. His son, Skene, is his assistant.

His operations are performed in a small room heated by an open grate fire, and but poorly supplied with light. Only a few students are invited to the operations. The patient is placed upon a board, to which she is fastened with a strap across the hips, and hands tied to it on each side; the board rests with each end upon a table, the operator and assistant standing one on each side between the tables. The room is disinfected before each operation with chlorine gas. The abdomen of the patient and hands of operator and assistant are washed with a strong alkaline solution for the purpose of removing the fatty substances, which, according to Keith, are carriers of the septic germs. After thoroughly washing the parts they are disinfected with a weak solution of corrosive sublimate. Sponges are used over and over, cleansing them after each operation in warm water, and subsequently in an alkaline solution; they are kept for use in a five per cent. solution of carbolic acid. During the operation they are kept immersed in a two per cent. solution of carbolic acid. The spray he has abandoned, since he has suffered from repeated attacks of hæmaturia, and if anything the results have been better since. Instruments are well cleansed after each operation, and during the operation they are kept in the strong solution of carbolic acid. All adhesions are carefully separated and each bleeding point tied with catgut. Ovarian cysts are tapped with a large straight trocar just as soon as the peritoneal cavity is opened.

From the descriptions I had read of his treatment of the pedicle I had always been afraid to adopt his method, but after I had seen the method applied I became convinced of its safety. The pedicle is firmly compressed in his clamp, and two or more cautery irons heated to a dull red heat are applied for a sufficient length of time to heat the metallic plates of the clamp sufficiently to cauterize gently the compressed portion of the pedicle. The compressed tissue must be rendered "dry," and when this has been accomplished it looks like a transparent membrane. Some practice is necessary to graduate the heat for each individual case, but when properly done hemorrhage never occurs. Dr. Keith affirms that the tissues thus treated do not slough, but are speedily supplied with new bloodvessels. He has seen new bloodvessels in the cauterized portion of the stump after twenty-four hours. Before the clamp is removed each side of the pedicle is carefully seized with forceps which do not tear, and any vessel which might contain blood is separately tied. In the many hundred cases treated by this method hemorrhage was never observed—certainly the best argument in favor of the reliability of the method.—*Journal American Medical Association*, May 14, 1887.

AN ANALYSIS OF 1000 PRESCRIPTIONS.—DR. FORREST contributes the following in the *Reports of the New York State Pharmaceutical Association* for 1886, as the results of investigations in his pharmacy:

In 1000 prescriptions prepared at my establishment I find that 428 different kinds of articles were called for. Of these 428 articles 293 are officinal in the U. S. Pharmacopœia; 83 are unofficinal—that is, not recognized by the pharmacopœia, but the knowledge of their formulæ and their manner of preparation is possible to all druggists. 52 are proprietary—that is, articles followed with the name of their manufacturer, and generally secret preparations.

Thus nearly 12½ per cent. of the articles were proprietary. Nearly 19½ per cent. were unofficinal, or over 31 per cent., or one-third of the different kinds of articles called for were not recognized by the Pharmacopœia.

There are 997 different articles in the U. S. Pharmacopœia. 704, or nearly 70 per cent. of these were not ordered at all, though it must be remembered that many of the 293 articles prescribed are compounds or manufactured from something else, and that many of the 704 not ordered are crude drugs that enter into the composition of the 293, or from which these are made.

THE RESULT OF SWALLOWING A FORK.—DR. WILLIAM WILSON, writing to the *Lancet* of May 28, 1887, from Florence, Italy, reports the following interesting case:

Cipriani, to whom you referred in a recent number, while imitating the exploits of a juggler in swallowing a fork, some sixteen years ago, allowed it to pass into his œsophagus beyond his control. After various attempts at extraction, made by himself, his friends, and his wife, he was, on the following day, transferred to the Ospedale de Santa Maria Nuova, where also all efforts at removal were unavailing. Several ingenious instruments were invented for the purpose, but failed. He remained in the hospital for five weeks, suffering more or less inconvenience, moral as well as physical, for the public were divided in opinion, some proclaiming him only a fool, others an imposter. A year or so afterward, having produced severe pain, hemorrhage, and other untoward symptoms, it was ascertained that the fork had effected its exit from the stomach, and passed into the intestines, accompanied with a relief to the more urgent

phenomena; motion, however, occasioned severe suffering. He now wandered from place to place, a subject of interest to some, of ridicule to others, till three or four weeks ago he was attacked by acute pleurisy of the right side, terminating in effusion, and was admitted into the Ospedale di San Giovanni di Dio. Recovering from this, attention was again directed to "the fork," which was discovered in the right iliac fossa, pointing obliquely upward to the left side. It was evidently fixed in this situation, for palpation effected no change in its position, and considerable enlargement could be detected in the immediate neighborhood. After long hesitation, he consented to an operation, which was performed by the distinguished surgeon Professor Rosati, aided by his skilful assistant, Dr. Catani. An incision was made extending from an inch and a half below the umbilicus perpendicularly down to the pubes, and after considerable difficulty the fork was extracted from the ascending colon, the blunt end pointing upward. There had been long and constant inflammation, as was proved by the great thickening of the bowel, adjacent tissues, and the firm adhesion of the colon to the abdominal parietes. The bowel was opened, the edges secured to the abdominal integuments, and the wound dressed in the usual way. The fork measured twenty-two centimetres, and presented but little erosion; for though the plating had disappeared, the extremities retained their original defined outlines. The time could not be calculated which it had taken in reaching its ultimate destination, but probably many years, judging from the condition of the surrounding textures. The patient bore the operation well, and was very anxious to secure possession of the fork as conclusive evidence against his detractors. There has been no fever or unfavorable symptom, and the wound is nearly healed, there remaining only a small fistulous opening communicating with the intestine.

CREMATION BY THE BOURRY SYSTEM.—The cremation society at Zurich, Switzerland, one of the best organized associations in the world, has adopted the Bourry system, which is described as follows: "Like Siemens, Mr. Bourry allows only heated air to communicate with the body. In both systems the corpse burns directly; no flame is to be seen singeing the body, but it burns itself by the abundance of hot oxygen which surrounds it. Bourry uses carbonic acid gas, prepared in a coke regenerator, for heating the crematorium. During the process of cremation he uses, mainly, chimney gases for heating the air before it touches the corpse, which allows a more economical use of the heat. It is of great advantage that the chimney needs to be thirty-five feet high from the base of the cellar, so that it is fully covered up by the building. The ashes fall, without being touched, by an almost automatically working apparatus into the urn. The dissolution of the body does not take place in the dark, unseen and uncontrolled, but the whole action is clear and open. Bourry and Venini place the crematorium, which has the shape of a sarcophagus, and which can be approached from all sides, in the midst of the hall in which the service is to take place. There is a little window on the back of the sarcophagus through which one can see the process of cremation, which is completed within one to one and one-half hours, without smell or smoke. The process is solemn and beautiful, and avoids every unæsthetic manipulation."—*The Sanitary News*, May 14, 1887.

WHAT HANDWRITING SHOULD CHILDREN BE TAUGHT?—Schubert, of Neuremberg, has made a careful study of various kinds of script, and the bearing which the use of each has upon the hygiene of the eyes among children, and the following are his conclusions:

As a practical conclusion to be drawn from his observations, Schubert lays down the rule that all children should be taught a perpendicular handwriting. Even if the erect median position of copy book be not actually better than the oblique median, still the teacher cannot tell when inspecting writing done at home what absurd position may have been adopted in writing it, if the child is permitted to write anything but perpendicular letters. These latter can only be executed in the erect median position. It may be possible for adults to write more rapidly a slanting than a perpendicular hand, but children are not required to write rapidly, but in a manner that does not tend to deform their vertebral columns or their eyes. In many countries now-a-days, and in times past, perpendicular handwriting alone obtains, and Schubert appends a series of fac similes of German handwriting in every century from the 8th to the 18th inclusive. From this it is seen that slanting letters were not adopted to any extent until the 17th century.—*Ophthalmic Review*, May, 1887.

SPONTANEOUS PURIFICATION OF RIVER WATER.—It is well known that rivers which in flowing through towns become charged with various organic substances, by degrees get rid of these impurities as they flow to a considerable distance. This can only be due to the oxidation of these organic matters, and M. Emich, who has studied the causes of this oxidation, arrives at the following conclusions. If pure water be left undisturbed, and in contact with atmospheric air, it is purified in the same time as it would be by being shaken in contact with the air. Ozone is not perceptibly quicker in action than ordinary air; if impure water be boiled and left in contact only with air deprived of germs by filtration through cotton, the organic matters will remain in it. If the deposit precipitated by water kept in contact with the air be mixed with water previously boiled, organic matter quickly disappears. The process of oxidation consists in the transformation of ammonia and its compounds into nitric acid and nitrogen. These facts show that the spontaneous purification of water containing germs results from the development of organisms, which act in the same way as the nitric ferment discovered by Schloesing.—*British Medical Journal*, May 7, 1887.

NUTRITIVE VALUE OF MUSHROOMS.—The prevalent idea (at least in Europe) that mushrooms are a food of no mean value, is not supported by facts. C. TH. MOERNER (*Schweitz. Wochenschr.*) has investigated the subject, and finds that only forty-one per cent. of the total amount of nitrogen may be considered as assimilable, and the nitrogen does not amount to more than about six per cent. of the dried mushrooms. He calculates, from the above data, that ten and a half avoirdupois ounces of *Agaricus campestris* are equal in nutritive value to only one average-sized hen's-egg; of

Polyporus ovinus, we need no less than four pounds; nine pounds of *Agaricus campestris* are equal to only one pound of beef; while of *Polyporus ovinus* it requires sixty-seven pounds.—*Popular Science News*, May, 1887.

DIMINUTION IN THE DEATH-RATE OF CONTINENTAL COUNTRIES.—At a recent meeting of the Society of International Statisticans, held at Rome, M. VACHER showed a diminution in the world's death-rate, as shown by the statistics of different lands. Taking France as an example, a mortality rate of 34 per cent. in 1770 became 24 per cent. in 1880; in Sweden 28 per cent. in 1760 was reduced to 17 per cent. in 1880.

M. BORDIO reported a steadily diminishing death-rate for Italy, since 1876: the result of improved drainage of marsh lands, and advances in national hygiene.

NOTES AND QUERIES.

MR. ERSKINE'S LINES ON DR. PHYSICK.

In the year 1792 Dr. Philip Syng Physick, of Philadelphia, received his degree of M.D. at Edinburgh. Upon its announcement Mr. William Erskine, the lawyer, afterward Lord Kinneddder, wrote the following verses. In 1839 they appeared in "The Court of Sessions Garland," of Edinburgh, a work limited to one hundred and fifty copies.

Sing Physic! sing physic! for Philip Syng Physick
Is dubbed Dr. Phil for his wonderful skill;
Each sick phiz he'll physic, he'll cure every phthisic,
Their lips fill with Phillip with potion and pill.

If music, as Plato does stoutly maintain,
In every disease be a sovereign thing
For calming the spirits and cooling the brain,
Be sure, Dr. Phil, when you physic, to sing.

Lo! Physick! the college permits thee to work
In curing diseases, the greatest of curses;
Syng! dance then with joy when thou think'st at one jerk,
Physick can empty both stomach and purses.

What a fillip to physic if Philip Syng Physick
His skill and his quill to support him shall bring;
Of fever and phthisic, each master and miss sick,
Of Philip Syng Physick the praises shall sing.

Each gap in the science of physic to fill up,
Old Phœbus young Philip Syng Physick bestows;
The potion and pill of Phil still shall we swill up,
And Syng shall be sung at the close of the dose.

The physic of Philip so sweetly to swill up,
Health, joy, and delight among mortals shall bring,
With pap and with praise, then, still Philip we'll fill up,
And Loud Io Pæans to Syng ever sing.

O, Death! Since Phil physics thy triumphs are past,
And broken thy dart is and blunt is thy sting;
Phil shall fill us with physic while Physick doth last,
And while Syng Physick physics, we'll Syng ever sing.

To each creature his own is the dearest and sweetest,
My host loves old stingo, and honey the bee;
Then Physick with physic still Philip shall fill up,
And sung by Syng Philip philippics shall be.

When Philip's great son, as old chroniclers sing,
Fell sick, to great Philip,[1] for physic he clung;
Then Philip with physic so fillipped the king
That physic and Phil by Timotheus were sung.

Now broke are Phil's pill box and Timothy's lyre,
Let fame to my hero their blazonments bring.
Like Philip's great son he can bleed—or the sire,
Can physic like Philip, like Timothy sing.

Syng Physick for fees seeks the sick man to physic,
But unsought hopes the fee of his physic and skill,
To ne'er let Phil Physick of physic the fee seek,
Nor the sick man be fee sick of physic and Phil.

Let physic sing Philip, for Philip Syng Physick
From plain Philip Physick is dubbed Dr. Phil,
Sing Syng then, each patient, while Philip shall physic,
And Physick shall fillip with potion and pill.

That Apollo the god is of physic and song,
Each schoolboy, I think, will fully readily holloa;
Then since to his name the same arts do belong,
Be Philip Syng Physick our Magnus Apollo.

[1] Philip was the name of Alexander the Great's physician.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT U. S. ARMY, FROM JUNE 28 TO JULY 2, 1887.

MCKEE, J. C., *Major and Surgeon.*—Granted three days' leave.—*S. O. 149, A. G. O.*, June 29, 1887.

BEALL, GEORGE T., *Captain and Medical Storekeeper.*—Granted four months' leave of absence.—*S. O. 150, A. G. O.*, June 30, 1887.

CHERBONNIER, A. V., *Captain and Medical Storekeeper.*—Directed to take charge of office and perform the duties of Acting Assistant Medical Purveyor, in St. Louis, Mo., during absence on leave of Captain George T. Beall, Medical Storekeeper, now performing those duties.—*S. O. 150, A. G. O.*, June 30, 1887.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY FOR THE WEEK ENDING JULY 2, 1887.

DEANE, C. W., *Passed Assistant Surgeon.*—Ordered to the Naval Rendezvous, San Francisco, Cal.

HARRIS, H. N. T., *Assistant Surgeon.*—Ordered to the Naval Hospital, Mare Island, Cal.

GORGAS, A. C., *Medical Director.*—Remain on present duty until December 31, 1887.

CLEBORNE, C. J., *Medical Inspector.*—Remain on present duty until December 31, 1887.

MACKEY, BENJAMIN F., *Surgeon.*—Remain on present duty until December 31, 1887.

BROWNE, J. MILLS, *Medical Director.*—Will remain on present duty as member of Retiring Board, until June 30, 1888.

DEAN, RICHARD C., *Medical Director.*—Will remain on present duty as member of Retiring Board, until June 30, 1888.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE, FOR THE WEEK ENDING JULY 2, 1887.

ARMSTRONG, S. T., *Passed Assistant Surgeon.*—Relieved from duty at Marine Hospital, Memphis, Tenn.; ordered to Marine Hospital, New York, N. Y., June 27, 1887.

PECKHAM, C. T., *Passed Assistant Surgeon.*—Relieved from duty at Marine Hospital, Wilmington, N. C.; ordered to Marine Hospital, Memphis, Tenn., June 27, 1887.

GLENNAN, A. A., *Passed Assistant Surgeon.*—Ordered to Revenue Cutter "Crawford," for temporary duty, June 30, 1887.

BROOKS, S. S., *Assistant Surgeon.*—Ordered to examination for promotion, June 27, 1887. Relieved from duty at Evansville, Ind.: ordered to Marine Hospital, at Wilmington, N. C., June 27, 1887.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

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